



MarinTrust Standard V2

Whole fish Fishery Assessment *WF02 Anchoveta (Engraulis ringens), Peru Northern-Central Stock*

MarinTrust Programme

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Table 1 Application details and summary of the assessment outcome

| Application details and summary of the assessment outcome | | | |
|---|------------------|--|-----------------------------------|
| Name(s): | | | |
| Country: Peru | | | |
| Email address: | | Applicant Code | |
| Certification Body Details | | | |
| Name of Certification Body: | | Global Trust Certification | |
| Assessor Name | CB Peer Reviewer | Assessment Days | Initial/Surveillance/ Re-approval |
| Sam Peacock Léa Lebechnech | Ivan Mateo | 4 | Re-Approval |
| Assessment Period | August 2022 | | |
| Scope Details | | | |
| Management Authority (Country/State) | | Peru (Ministry of Production, PRODUCE) | |
| Main Species | | Anchoveta (<i>Engraulis ringens</i>) | |
| Fishery Location | | Northern border of Peru EEZ to 16° South | |
| Gear Type(s) | | Purse Seine (industrial fleet) | |
| Outcome of Assessment | | | |
| Overall Outcome | | PASS | |
| Clauses Failed | | None | |
| CB Peer Review Evaluation | | Agree with Assessor's assessment | |
| Fishery Assessment Peer Review Group Evaluation | | Approve see report | |
| Recommendation | | APPROVED | |

Table 2. Assessment Determination

| Assessment Determination |
|--|
| <p>The Peruvian North-Central anchoveta fishery (Anchoveta) extends from the northern end of the Peruvian EEZ down to 160S. This represents a single biological stock, expanding in recent warmer years to the Gulf of Guayaquil (3°00' S) in Ecuador. The status of North-Central Anchoveta as a single biological stock was confirmed by Cahuin et al 2015, and has not changed.</p> <p>The fishery is managed by the Peru management agency (PRODUCE). There is a monitoring, surveillance and control system in place. There is a harvest strategy in place to ensure that stocks are fished at sustainable levels. Data are collected and stocks are assessed.</p> <p>Total fishing mortality is restricted using a system of TAC's (<i>Límite Máximo Total de Captura Permissible – LMTCP</i>) and Catch Limits per Vessel. Catch restrictions cover the whole fleet, and place both Anchoveta (<i>Engraulis ringens</i>) and Longnose anchoveta (<i>Anchoa nasus</i>) in a single management unit.</p> <p>As last year's assessment report, Anchoveta from artisanal is not included in the scope of this assessment, even if some references pertain to both the industrial and artisanal fisheries. Both fisheries have regulations and management measures in common, so they apply for all the fleets independently whether is for direct or indirect consumption.</p> <p>Peruvian law allows up to 5% of non-target species bycatch in weight in this fishery. The assessment team acknowledges that daily landings data are available on the IMARPE website, including bycatch, however they have not been able to find a summary report showing what was actually landed for the whole first fishing season of 2022. The assessment team decided to use the catch composition data from the May 2021 IMARPE report of the observer programme in the North-Central industrial Anchoveta fishery¹. This report states that 99.792% of observed landings in May 2021 were Anchoveta, and the only other species captured in volumes which require it to be included in this assessment (i.e. >0.1% of landings) is Munida (Red squat lobster). An informal review of the daily catch statistics for the fishery² reinforced the catch composition data provided in this observer programme report. No other observer reports or any other sources of longer-term incidental catch data could be found for 2022, but more consistent data will be needed next year for the next assessment.</p> <p>Anchoveta is subject to species-specific management and was therefore assessed under Category A. The stock Anchoveta in Peru Northern Central is viable and biologically in good or average condition. At the time that the April 2022 stock assessment was published, SSB was estimated to be 9,780 million tonnes which is above the limit reference point (4 million tonnes) and the target reference point, SSB_{Ref}, (5 million tonnes).</p> <p>Munida is not subject to species-specific management measures and was assessed under Category D.</p> <p>Catches of other small pelagic fishes such as the Chilean Jack Mackerel (<i>Trachurus murphyi</i>), Pacific Chub mackerel (<i>Scomber japonicus</i>) and the Humboldt squid (<i>Dosidicus gigas</i>), assessed in the previous report under Category C and passed; but also South American pilchard (<i>Sardinops sagax</i>) and Longnose anchoveta (<i>Anchoa nasus</i>), assessed in the previous report under Category D and passed, are not considered in this year's assessment.</p> <p>Information about the impact of the fishery on ETPs species should still be improved as the data available are from a private initiative of SALVAMARES observed programme and it should be extended to the whole fleet. No new reports have been published since 2019, however, information has been found enough to pass the clause as improvements have been carried out and developments were planned for 2020 but delayed because of Covid19 pandemic. They should be reflected in the upcoming reports.</p> <p>More information should also be collected to define the potential direct and indirect impacts of the fishery on vulnerable species and habitats. Encountered habitats should be defined with more clarity as there is controversial information through observer reports. However, considering the type of fishing gear used, the assessor has concluded that the fishery can pass habitats' clauses.</p> |

¹ http://www.imarpe.pe/imarpe/archivos/reportes/imarpe_repo_bitacora_pesca_anchoveta_may2021.pdf

² http://www.imarpe.gob.pe/imarpe/detallereport.php?id_seccion=I0131020101000000000000

In this Re-approval assessment, there have not been significant changes that could affect the results obtained in previous years, new stocks assessment reports are yet to be published. Similarly, still no new information from observer programmes is available at the moment.

None of the species assessed in this report are categorised as Endangered or Critically Endangered on the IUCN Red list nor is listed in Appendix 1 of CITES.

The assessor determined that Anchoveta in Peru Northern-Central Stock is **APPROVED** for the production of fishmeal and fish oil under the MarinTrust v 2.0 by-products standard for whole fish.

Fishery Assessment Peer Review Comments

The assessor correctly classified the Anchoveta in Peru Northern Central Stock as category A in conformity with the Species categorisation requirements. The fishery is managed by the Peru management agency (PRODUCE). There is a monitoring, surveillance and control system in place. There is a harvest strategy in place to ensure that stocks are fished at sustainable levels. Data are collected and stocks are assessed.

The stock Anchoveta in Peru Northern Central is viable and biologically in good or average condition. At the time that the April 2022 stock assessment was published, SSB was estimated to be 9,780 million tonnes which is above the limit reference point (4 million tonnes) and the target reference point, SSB_{Ref}, (5 million tonnes).

There is a mechanism in place by which total fishing mortality of the stock is restricted.

The assessor correctly classified Munida as category D in conformity with the Species categorisation requirements

There is no evidence that the fishery impacts significantly habitats, ETP species and the ecosystem.

Therefore, that Anchoveta in Peru Northern-Central Stock should be awarded continued approval for the production of fishmeal and fish oil under the IFFO-RS v 2.2 standard

Notes for On-site Auditor

Table 3 General Results

| General Clause | Outcome (YES/Fail) |
|--|--------------------|
| M1 - Management Framework | YES |
| M2 - Surveillance, Control and Enforcement | YES |
| F1 - Impacts on ETP Species | YES |
| F2 - Impacts on Habitats | YES |
| F3 - Ecosystem Impacts | YES |

Table 4 Species- Specific Results

List all Category A and B species. List approximate total percentage (%) of landings which are Category C and D species; these do not need to be individually named here

| Category | Species | % landings | Outcome (YES/Fail) | |
|------------|--------------------------------------|------------|--------------------|-----|
| Category A | <i>Anchoveta (Engraulis ringens)</i> | 99.792% | A1 | YES |
| | | | A2 | YES |
| | | | A3 | YES |
| | | | A4 | YES |
| Category B | No Category B Species | | | |
| Category C | No Category C Species | | | |
| Category D | <i>Munida (Pleuroncodes monodon)</i> | 0.126% | YES | |

Table 5 Species Categorisation Table

| Common name | Latin name | Stock | IUCN Redlist Category ³ | % of landings | Management | Category |
|-------------|-----------------------------|---------------|------------------------------------|---------------|------------|--------------|
| Anchoveta | <i>Engraulis ringens</i> | North-Central | Least Concern ⁴ | 99.792% | Yes | A |
| Munida | <i>Pleuroncodes monodon</i> | n/a | Not listed | 0.126% | No | D |
| Bonito | <i>Sarda chiliensis</i> | n/a | n/a | 0.062% | n/a | None (<0.1%) |
| Pejerrey | <i>Odontesthes regia</i> | n/a | n/a | 0.011% | n/a | None (<0.1%) |
| Lorna | <i>Sciaena deliciosa</i> | n/a | n/a | 0.006% | n/a | None (<0.1%) |
| Caballa | <i>Scomber japonicus</i> | n/a | n/a | 0.002% | n/a | None (<0.1%) |

Species categorisation rationale

Catch composition data were primarily taken from the May 2021 IMARPE report of the observer programme in the North-Central industrial Anchoveta fishery⁵. This report falls during the First Fishing season of 2021, which was regulated by two Ministerial Resolutions: “Resolución Ministerial N° 00120-2021-PRODUCE⁶” which opened the fishing season on 22 April 2021 and “Resolución Ministerial N° 00242-2021-PRODUCE⁷” which closed it on 11 August 2021.

This report states that 99.792% of observed landings in May 2021 were Anchoveta, with the only other species captured in volumes which require it to be included in this assessment (i.e. >0.1% of landings) being Munida (Red squat lobster). An informal review of the daily catch statistics for the fishery⁸ reinforced the catch composition data provided in the May 2021 observer programme report. No other observer reports or any other sources of longer-term incidental catch data could be found for recent years.

Anchoveta is subject to species-specific management and was therefore assessed under Category A. Munida is not subject to species-specific management measures and was assessed under Category D.

³ <https://www.iucnredlist.org/>

⁴ <https://www.iucnredlist.org/species/183775/102904317>

⁵ http://www.imarpe.pe/imarpe/archivos/reportes/imarpe_repo_bitacora_pesca_anchoveta_may2021.pdf

⁶ <https://www.gob.pe/institucion/produce/normas-legales/1860877-120-2021-produce>

⁷ <https://www.gob.pe/institucion/produce/normas-legales/2066368-242-2021-produce>

⁸ http://www.imarpe.gob.pe/imarpe/detallereport.php?id_seccion=1013102010100000000000

MANAGEMENT

The two clauses in this section (M1, M2) relate to the general management regime applied to the fishery under assessment. The clauses should be completed by providing sufficient evidence to justify awarding each of the requirements a YES or fail rating. A fishery must meet all the minimum requirements in every clause before it can be recommended for approval.

| M1 | Management Framework – Minimum Requirements | | |
|------------------------|---|--|-------------|
| | M1.1 | There is an organisation responsible for managing the fishery. | YES |
| | M1.2 | There is an organisation responsible for collecting data and assessing the fishery. | YES |
| | M1.3 | Fishery management organisations are publicly committed to sustainability. | YES |
| | M1.4 | Fishery management organisations are legally empowered to take management actions. | YES |
| | M1.5 | There is a consultation process through which fishery stakeholders are engaged in decision-making. | YES |
| | M1.6 | The decision-making process is transparent, with processes and results publicly available. | YES |
| Clause outcome: | | | PASS |

The majority of the information presented below remains the same at last year’s assessment.

M1.1 There is an organisation responsible for managing the fishery.

This assessment concerns the Peruvian North-Central Anchoveta fishery (Anchoveta, *Engraulis ringens*) which extends from the northern end of Peru’s EEZ down to 16°S (Figure 1 & Figure 2, Source: Fishsource):



Figure 1. Spatial distribution of industrial fishery of Anchoveta in the Northern-Central Area.

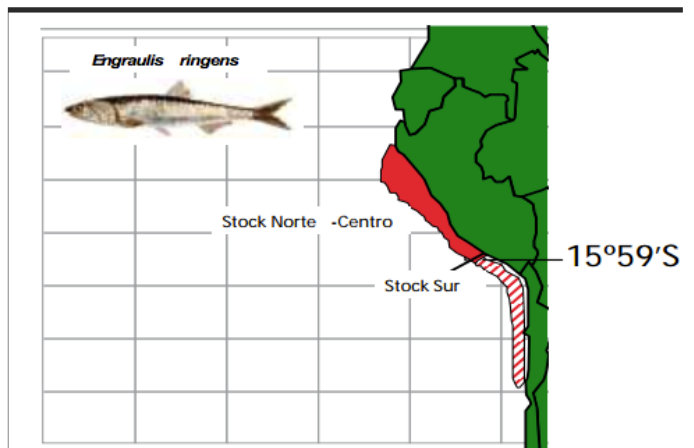


Figure 2. Anchoveta stocks off Peru.

Fisheries management in Peru is the responsibility of the Vice-Ministry of Fisheries and Aquaculture, under the Ministry of Production (PRODUCE). The current organisational structure and functions of PRODUCE were established via Supreme Decree 009-2017-PRODUCE. The responsibilities of PRODUCE include the formulation, designation, execution and supervision of the national and sectoral policy for Fisheries, Aquaculture and Industry.

The opening and closing of the fishing seasons are regulated by PRODUCE, through the publication of Resolutions (*Resoluciones Ministeriales – RM* and *Resoluciones Directorales - RD*) and Supreme Decree (*Decreto Supremo*) each time on PRODUCE website. They contain notably annual catch limits and technical measures regulating the fishery.

The Institute of the Sea of Peru (*Instituto del Mar del Perú – IMARPE*), is the organisation responsible for providing scientific analysis and support to fishery managers (notably training). IMPARPE is a specialised Governmental technical body of PRODUCE, with a stated purpose of “the generation of scientific knowledge that allows the Peruvian State to have scientific, truthful and timely advice for the sustainable use of living resources of the sea and continental waters” (Gob.pe, 2022b).

IMARPE is also responsible for conducting research necessary to ensure informed fisheries management decisions are taken at the ministerial level, and conducts stock assessments and recommend annual catch limits of the stock considering environmental and biological parameters.

Therefore, there is an organisation responsible for managing the fishery and the stock complex PASSES Clause M1.1.

M1.2 There is an organisation responsible for collecting data and assessing the fishery.

The organisation responsible for providing scientific analysis and support to fishery managers is the Institute of the Sea of Peru (*Instituto del Mar del Perú* - IMARPE). IMARPE is a specialised Governmental technical body of the Ministry of Production, with a stated purpose of “the generation of scientific knowledge that allows the Peruvian State to have scientific, truthful and timely advice for the sustainable use of living resources of the sea and continental waters” (Gob.pe, 2022b).

IMARPE is responsible for conducting research necessary to ensure informed fisheries management decisions are taken at the ministerial level. IMARPE conducts stock assessments and recommend annual catch limits of the stock considering environmental and biological parameters. Also, according to the General Fishing law (*Ley General de Pesca*, approved by the Decree-Law N° 25977 of 1992), IMARPE determines the beginning and the end of the fishing seasons for the stock.

IMARPE provides regular reports on fisheries activities which include, among other, reports like *Informe Técnicos*: results of acoustic surveys; *Prospección biológico-pesquera*: stock assessments and advice on TAC’s and *Reporte del Progamas Bitacora de Pesca*: observer reports and log sheet data.

In the report of the observer programme from May 2021, it is mentioned that the shipment of observers had a decrease of 82% due to the COVID-19 pandemic, and that in May 2021 there have been 40 fishing trips by the industrial fleet targeting the anchovy resource were observed. During these trips a total of 96 fishing hauls were made.

After carrying out regular biannual hydroacoustic surveys, IMARPE releases catch advice following precise set protocols (IMARPE, 2015):

- Estimation of stock size, structure and biomass using data from biannual acoustic surveys
- Projection of size structures under different scenarios (exploitation, growth and mortality, which will vary according to expected environmental conditions within the projection period)
- Elaboration of a decision table according to different scenarios.

When abundance is low and environmental conditions unstable, extra surveys are conducted. Discards are not directly recorded but incorporated into stock assessments indirectly via acoustic surveys and population length frequency data.

Therefore, there is an organisation responsible for collecting data and assessing the fishery, so the stock complex PASSES Clause M1.2.

M1.3 Fishery management organisations are publicly committed to sustainability.

The states mission of PRODUCE is to promote the development of agents in the productive sector, encouraging innovation, quality and environmental sustainability, contributing to the competitiveness of the sector (Gob.pe, 2022a).

Management of fisheries in Peru is underpinned by the General Fisheries Law which contains 12 Titles and 90 Articles. Management objectives include ensuring sustainability of fisheries and of aquatic resources. Article 1 recognises fishing as a food and employment source which must be used wisely, maximising economic benefits while preserving biodiversity and the environment. The law also states as an over-arching objective that the Ministry of Fisheries (i.e. the Vice-Ministry of Fisheries and Aquaculture) will establish a management system that reconciles the principle of sustainability of fishing resources or conservation in the long term, with the obtaining of the greater economic and social benefits (Decree 25977 of 1992).

An ecosystem approach to fisheries management is in force, based on best available scientific evidence and including the consideration of economic and social aspects to fishing activities. A National Environmental Policy for ecosystem conservation was ratified in 2016, following Government’s formal acceptance of the Paris Agreement.

Further, every year IMARPE presents the “*Plan Operativo Institucional*” where the main results of commercial stocks are presented (i.e. surveys results, landings, management modifications).

Therefore, fishery management organisations are publicly committed to sustainability, so the stock complex PASSES Clause M1.3.

M1.4 Fishery management organisations are legally empowered to take management actions.

The main fisheries legislation in Peru is the *Ley General de Pesca* (*General Fisheries Law*), Decree 25977 of 1992, as amended. Additionally, the structure and function of PRODUCE as the lead organisation responsible for fisheries was most recently established in Supreme Decree N° 009-2017-PRODUCE.

PRODUCE *Decreto Supremo* N° 021-2008 (Article 3) gives Officials legal authority to determine the length of fishing seasons and TAC's (*Límite Máximo Total de Captura Permissible* - LMTCP) based on IMARPE recommendations.

PRODUCE publishes lists of sanctions invoked and relevant laws, fines, and fishing suspensions on the ministerial website, as required by Regulations of the Organization and Functions of the Ministry of Production.

Regulations relevant to fisheries legislation include:

- Title XI Articles 76 – 83: *Ley General de Pesca*: List of Prohibitions, Infractions and Sanctions. All Sanctions are issued through PRODUCE Directorial Resolutions (*Resoluciones Directorales*).
- Chapter II Articles 103-107: Fisheries Inspectors: Competencies and obligations of fishing skippers.

Article 9 of the *Ley General de Pesca* empowers PRODUCE to determine, based on available scientific evidence and socioeconomic factors, fishing quotas, management tools, fishing areas and seasons, the regulation of fishing effort and other technical measures to promote the preservation and rational exploitation of aquatic Resources.

In January 2019, PRODUCE published Protocol N° 054-2019-MP-FN which aims to establish procedures that must be developed to execute interdiction operations against alleged illegal fishing activities.

Therefore, fishery management organisations are legally empowered to take management actions, so the stock complex PASSES Clause M1.4.

M1.5 There is a consultation process through which fishery stakeholders are engaged in decision-making.

Sociedad Nacional de Pesquería (SNP) is a private trade organisation that, since 1952, has been consolidating the world leadership of Peruvian industrial fishing and aquaculture. The SNP brings together the most important national actors in the production of high-quality seafood and seafood ingredients, developing responsible and sustainable practices with the marine ecosystem and the environment and fighting illegal activities and promoting the protection of the environment through sustainable fishing, good science and innovative practices.

SNP's objectives include representing the industry in Government fora and meetings and to facilitate cooperation with Government and Regional Departments that promote and develop the fishing and aquaculture industries in Peru.

SNP has developed an Ethical code in which article 7 is aimed at complaining with the decision-making process. The government and SNP have signed agreements to comply the decision-making processes in a transparent to provide timely solutions in fisheries matters. Therefore, SNP will sponsor and ensure that the Peruvian State, in accordance with these commitments, will facilitate consultation and the effective participation of the industry, fishing workers, fishermen and other institutions and organizations interested in decision-making process regarding the development of standards and policies related to fisheries management.

SNP is also part of the Fisheries Improvement Project (FIP) targeting the fishery, which finished in January 2022.

Since 2015, both IMARPE and PRODUCE are gradually improving transparency regarding the management of this fishery. IMARPE publishes daily landing records from industrial (IMARPE 2017).

PRODUCE is also regularly interacting with *Sociedad Nacional de Anchoveta* (SNA), through meetings with its President (4 January 2022), as it is possible to see in the Ministry agenda⁹. They are involved in the decision-making at it can sometimes be seen in the press¹⁰.

There are several committees to represent all the stakeholders in the fisheries. The decision-making process is made publicly available.

Furthermore, the fishery worked closely with WWF-Peru on a Fishery Improvement Project (FIP) to the fishery up to the Marine Stewardship Council (MSC) certification. Certification will ensure that environmental issues are tackled and that the livelihoods of the local and international communities that depend on the fishery are maintained for generations to come.

Therefore, there is a consultation process through which fishery stakeholders are engaged in decision-making, so the stock complex PASSES Clause M1.5.

M1.6 The decision-making process is transparent, with processes and results publicly available.

IMARPE regularly publishes information regarding the current status of fishing activity; the current and likely future status of fishery resources; the outcomes of observer programmes; and the methodology and outcomes of hydroacoustic research cruises. These are all made available on the IMARPE website, primarily through the Fishing Activity Reports page (IMARPE 2022).

⁹ <https://www.gob.pe/institucion/produce/agenda>

¹⁰ <https://infomercado.pe/sociedad-nacional-de-anchoveta-exige-que-produce-atienda-sus-demandas/>

Annual catch limits and technical measures regulating the fishery are published on the PRODUCE website. IMARPE provides regular reports on activity in the fishery which include, among other reports: *Informes Técnicos*: results of acoustic surveys; *Prospección biológico-pesquera*: stock assessments and advice on TAC's; *Reporte del Progamas Bitacora de Pesca*: observer reports and logsheet data. Local and international Press comment on IMARPE and PRODUCE activities and on the reporting of the state of Peru's fisheries and aquaculture operations. The different committees that represent SNP take part of meetings to agree management measures that are published as ministerial regulations.

The "Dirección General de Políticas y Desarrollo pesquero" uses different management rules to set up the TACs for each fishing season. The three conditions considered are detailed below:

1. Environmental scenario is selected in each fishing season. That is, if the conditions for the stocks this year are: favourable, not favourable or neutral for the Anchoveta stock.
2. A target spawning biomass value between the 3 - 6 million tons associated with a risk less than 50% is selected.
3. An exploitation rate that should be less than 0.35% is applied when TAC is defined.

Decision-making processes respond to conflicts that can occurs in the fishery. Legislation has been timely taking into account to respond to general decisions, i.e. when closure has to be done because of the presence of juveniles. Fishing areas with high incidence of juveniles are identified and depending on the percentage of juveniles, the area will be closed in up to 5 days. Therefore, a precautionary approach based on the best available information is followed when discussing the management strategy and IMARPE recommendations are taken into account.

These management strategies are applied and they are published and revised by IMARPE and the different committees. 2020 protocol can be found in IMARPE website.

There is a consultation process through which fishery stakeholders are engaged in decision-making and the process is transparent, with processes and results publicly available.

Therefore, the decision-making process is transparent, with processes and results publicly available so stock complex PASSES Clause M1.6.

References

Decree 25977, *Ley General de Pesca* (General Fisheries Law), 1992 as amended: <https://diariooficial.elperuano.pe/pdf/0062/LEYGENERALDEPESCA.pdf>

Gob.pe (2022a). PRODUCE, institutional information: <https://www.gob.pe/institucion/produce/institucional>

Gob.pe (2022b). IMARPE, institutional information: <https://www.gob.pe/institucion/imarpe/institucional>

IMARPE (2022). Fishing Activity Reports: http://www.imarpe.gob.pe/imarpe/index2.php?id_seccion=reportes

IMARPE (2022). *II Temporada de Pesca de Anchoveta en el NC - 2021 al 15 de ene 2022* (AFIRNP - IMARPE): http://www.imarpe.gob.pe/imarpe/archivos/reportes/Reporte_Anchoveta_II_Temporada_2021.html#esfuerzo

Decreto Supremo N° 009-2017-PRODUCE. Modifica el Reglamento de Organización y Funciones del Ministerio de la Producción (Supreme Decree that modifies the Regulation of Organization and Functions of the Ministry of Production): <https://busquedas.elperuano.pe/normaslegales/decreto-supremo-que-modifica-el-reglamento-de-organizacion-y-decreto-supremo-n-009-2017-produce-1521986-4/>

Resolución Directoral N° 04985-2018-PRODUCE/DS-PA (Fines applied) https://cdn.www.gob.pe/uploads/document/file/203422/97443_1.pdf

PRODUCE Protocol (N° 054-2019-MP-FN) Combat IUU activities: http://cedepesca.net/wp-content/uploads/2017/05/DS-005-2017-PRODUCE_ROP-anchoveta-CHD.pdf

IMARPE 2021. Reporte del programa de observadores a bordo - Bitácores de pesca. May 2021: http://www.imarpe.pe/imarpe/archivos/reportes/imarpe_repo_bitacora_pesca_anchoveta_may2021.pdf

Resolución Ministerial N° 120-2021-PRODUCE. April 2021: <https://www.gob.pe/institucion/produce/normas-legales/1860877-120-2021-produce>

Resolución Ministerial N° 242-2021-PRODUCE. August 2021:

<https://www.gob.pe/institucion/produce/normas-legales/2066368-242-2021-produce>

IMARPE 2022. Daily report of the fishing activity (*REPORTES DE LA ACTIVIDAD PESQUERA*):
http://www.imarpe.gob.pe/imarpe/detallereport.php?id_seccion=1013102010100000000000

Normas Legales Actualizadas. DIARIO OFICIAL DEL BICENTENARIO El Peruano. Ley General de Pesca, Decreto Ley n°25977. Reglamento de la Ley General de Pesca, Decreto Supremo N° 012-2001-PE: <chrome-extension://efaidnbmnbbpajpglefindmkaj/https://diariooficial.elperuano.pe/pdf/0062/LEYGENERALDEPESCA.pdf>

Plan Operativo Institucional (POI) Multianual 2022- 2024 IMARPE, RESOLUCIÓN DE DIRECCIÓN EJECUTIVA CIENTÍFICA (Resolution of the Scientific Executive Direction) N° 086-2021-Imarpe/DEC: https://cdn.www.gob.pe/uploads/document/file/2907964/res_DEC_086_2021.pdf.

IMARPE Reporting *Evaluación del Plan Operativo (Landings data)*:
https://www.transparencia.gob.pe/enlaces/pte_transparencia_enlaces.aspx?id_entidad=103&id_tema=5&ver=#.YMIGNPnduUk

Links

| | |
|-----------------------------------|--------------------------------------|
| MarinTrust Standard clause | 1.3.1.1, 1.3.1.2 |
| FAO CCRF | 7.2, 7.3.1, 7.4.4, 12.3 |
| GSSI | D.1.01, D.4.01, D2.01, D1.07, D1.04, |

| M2 Surveillance, Control and Enforcement - Minimum Requirements | | |
|--|---|-------------|
| M2.1 | There is an organisation responsible for monitoring compliance with fishery laws and regulations. | YES |
| M2.2 | There is a framework of sanctions which are applied when laws and regulations are discovered to have been broken. | YES |
| M2.3 | There is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing. | YES |
| M2.4 | Compliance with laws and regulations is actively monitored, through a regime which may include at-sea and portside inspections, observer programmes, and VMS. | YES |
| Clause outcome: | | PASS |

No major changes have been found since last year, so the information is mainly the same as last year's assessment.

M2.1 There is an organisation responsible for monitoring compliance with fishery laws and regulations.

The organisation responsible for monitoring compliance, implementation and enforcement of fisheries laws and regulations is established as "the competent body of the Ministry of Production" by Title 2 Chapter 1 Article 3 of Supreme Decree 017-2017-PRODUCE, through the Directorate General of Supervision, Control and Sanction (*Dirección General de Supervisión, Fiscalización y Sanción - DGSFS*).

PRODUCE carries out this monitoring with the support of the "supervisory administrative authorities of the Regional Governments". The Decree also establishes the existence and powers of fishery inspectors and auditors, setting out the legal basis for them to access and inspect any fishery establishment or vessel.

Landings are also monitored and recorded by the international surveillance company SGS. These third-party operators verify landing operations at 134 designated landing sites.

DGSFS publishes and regularly updates a list of vessels prohibited from operating on the fishery, and also lists a significant number of 'featured inspections' and prosecutions on its website. A recent prosecution reported involved illegal landing of Anchoveta. There are at any one time up to 650 inspectors conducting daily control operations across Peru during periods of heavy fishing activity.

Monitoring and compliance regarding discards and zonal invasions (industrial vessels operating within 5nm from the coastline) are expected to increase with the electronic log system and mandatory positioning system now on board for all fleets. Most infractions relate to excess of juveniles onboard or fishing without prior notification.

Therefore, there is an organisation responsible for monitoring compliance with fishery laws and regulations and the fishery PASSES Clause M2.1.

M2.2 There is a framework of sanctions which are applied when laws and regulations are discovered to have been broken.

PRODUCE publishes lists of sanctions invoked and relevant laws, fines, and fishing suspensions on their website, as required by Regulations of the Organization and Functions of the Ministry of Production.

Sanctions for violations of fishery laws and regulations are set out in Supreme Decree 017-2017-PRODUCE. This decree establishes the potential infractions relating to fishing, processing, transportation and storage. Title 2 Chapter 4 of the Decree sets out penalties, which can include fines, suspension of fishing licence, confiscation of vessels and/or gear, immobilisation, and the return of catch to the natural environment. Title 6 includes an extensive table detailing which sanctions are to be applied to each potential infraction.

Other regulations relevant to the application of fisheries sanctions include:

- *Ley 25977 Ley General de Pesca (Artículos del 76° al 83°).*
- *Decreto Supremo n°012-2001-PE Reglamento de la Ley General de Pesca (Artículos del 126° al 150°).*
- *Decreto Supremo n°016-2007-PRODUCE Reglamento de Inspecciones y Sanciones Pesqueras Acuícolas: Regulation on inspections and sanctions, including issuing fines for non-compliances.*
- *Decreto Supremo n°017-2017-PRODUCE, Reglamento de Fiscalización y Sanción de las Actividades Pesqueras y Acuícolas: Regulation on the Control and Sanctioning of Fishing and Aquaculture Activities.*
- *Decreto Supremo n°024-2016-PRODUCE: Measures (fines, withdrawal of licences) to strengthen control and inspection.*

Therefore, there is a framework of sanctions which are applied when laws and regulations are discovered to have been broken so the fishery PASSES Clause M2.2.

M2.3 There is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing.

In 2010, alleged estimates for undeclared Anchoveta catches by fishing companies was 10%, confirming that the data gathering system needed improvement.

The fishery has been targeted by a FIP, which ended its Stage 5 of implementation (Improvements on the water) in January 2022. The next progress report was due in March 2022, but it is not published yet. One of the goals of the FIP was to organize available data gathered by industrial fishing vessels and encourage further technological innovation and development in order to allow for the more efficient assessment and monitoring of the ecosystem.

From October 2018, the Government made available VMS data from the fleets to the Global Fishing Watch (GFW) application. At the time, Peru was the first Latino American Country to contribute these data to the GFW platform. Its goal is to improve transparency in fishing operations and reduce IUU fishing worldwide. Vessels from industrial fleets were included.

The fishery is closed to new vessels, there is 24-hour monitoring of all 134 designated landing sites to ensure that only those vessels with a permit are allowed to land catch. There is substantial evidence that these mechanisms have been successful in the limiting of fishing effort, the most important of which is that seasonal landings have not exceeded quotas. When catches are too high, PRODUCE introduces a fishing closure avoiding illegal and to not to exceed the total annual catch (RM N° 544-2019-PRODUCE). Most infractions relate mostly to excess of juveniles onboard or fishing without prior notification.

Therefore, there is no substantial evidence of widespread non-compliance in the fishery, and no substantial evidence of IUU fishing so the fishery PASSES Clause M2.3.

M2.4 Compliance with laws and regulations is actively monitored, through a regime which may include at-sea and portside inspections, observer programmes, and VMS.

There is a national observer programme for the pelagic fisheries which reports incidental catches, along with some private ones, notably in the context of the FIP, but the coverage remains low.

Industrial vessels are required by law to operate a Satellite Tracking System (SISESAT), designed to ensure they remain further than 5nm from the coast. In 2016, a mobile app was introduced by DGSFS and incorporated into the SISESAT system. PRODUCE states that the app allows accredited inspectors check location, speed, direction and distance of fishing vessels to coast with more accuracy than traditional satellite systems. Mandatory vessel monitoring systems (VMS) are in place, as required by PRODUCE Decrees N° 10-2010, N° 5-2012 and N° 01-2013. The electronic/radio log is required as well for the fishery (PRODUCE 2016a). There is 24-hour monitoring of all 134 designated landing sites to ensure that only those vessels with a permit are allowed to land catch.

Other technological tools participate in the monitoring of the fishery: the Programme for Surveillance and Control of Fishing and Aquaculture Activities at the National Level (*Programa de Vigilancia y Control de las Actividades Pesqueras y Acuícolas en*

el *Ámbito Nacional*); the System for Identification and Monitoring of Water Traffic (*Sistema de Identificación y Monitoreo del Tráfico Acuático - Simtrac*) and the System of Environmental Monitoring (*Sistema de Monitoreo Ambiental - Simon*). Peru also agreed to share its data on fishing vessels tracking through the platform Global Fishing Watch, which shows the movement of vessels over time, thanks to a system using the public transmission of Automatic Identification System (AIS) data, collected by satellites and receivers on the ground.

When the information retrieved shows, for example, that the permissible juvenile limit has been exceeded, the government quickly implements measures to suspend the fishing activities in the concerned areas.

Furthermore, PRODUCE has approved in 2020 guidelines for the recording of information on illegal fishing and unreported fishing of Anchoveta (PRODUCE 2020), information which will be provided by PRODUCE to IMARPE. IMARPE will then be able to consider it when it will give its advice on the LMTCP.

The finality of these guidelines is to maintain an always-updated register of Anchoveta IUU fishing.

Therefore, compliance with laws and regulations is actively monitored, through a regime which may include at-sea and portside inspections, observer programmes, and VMS so the fishery PASSES Clause M2.4.

References

Decreto Supremo N° 016-2007-PRODUCE. *Reglamento de Inspecciones y del Procedimiento Sancionador de las Infracciones en las Actividades Pesqueras y Acuícolas*. October 2017:

<http://www2.produce.gob.pe/dispositivos/publicaciones/2007/octubre/ds016-2007-produce.pdf>

Decreto Supremo N° 017-2017-PRODUCE. *Decreto Supremo que aprueba el Reglamento de Fiscalización y Sanción de las Actividades Pesqueras y Acuícolas*. November 2017: <https://www.gob.pe/institucion/produce/normas-legales/149906-017-2017-produce>

PRODUCE Press Release (Oct 2019): *Perú ha demostrado liderazgo global en compartir sus datos de vigilancia pesquera*:

<https://www.gob.pe/institucion/produce/noticias/61260-produce-peru-ha-demostrado-liderazgo-global-en-compartir-sus-datos-de-vigilancia-pesquera>

Decreto Supremo N° 024-2016-PRODUCE. *Establece medidas para fortalecer el control y vigilancia de la actividad extractiva para la conservación y aprovechamiento sostenible del recurso anchoveta*. November 2016.

<http://busquedas.elperuano.com.pe/download/url/decreto-supremo-que-establece-medidas-para-fortalecer-el-con-decreto-supremo-n-024-2016-produce-1453690-4>

Resolución Directoral N° 061-2020-PRODUCE/DGSFS-PA. *Lineamiento para el registro de información sobre pesca ilegal y pesca no declarada* (Guidelines for the recording of information on illegal fishing and unreported fishing). September 2020.

<https://www.gob.pe/institucion/produce/normas-legales/1196339-061-2020-produce-dgsfs-pa>

Plataforma digital única del Estado Peruano (Government of Peru platform). Precautionary closures of fishing zones for anchovy resources. May 2022: <https://www.gob.pe/institucion/produce/informes-publicaciones/3027539-suspensiones-preventivas-de-zonas-de-pesca-del-recurso-anchoveta>

Resolución Ministerial N° 544-2019-PRODUCE. *Suspender las actividades extractivas del recurso anchoveta y anchoveta blanca, en el área comprendida entre los 08°00'S y 15°00'S*. December 2019.

<https://www.gob.pe/institucion/produce/normas-legales/391106-544-2019-produce>

Links

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|-----------------------------------|---------|
| MarinTrust Standard clause | 1.3.1.3 |
| FAO CCRF | 7.7.2 |
| GSSI | D1.09 |

CATEGORY A SPECIES

The four clauses in this section apply to Category A species. Clauses A1 - A4 should be completed for **each** Category A species. If there are no Category A species in the fishery under assessment, this section can be deleted. A Category A species must meet the minimum requirements of all four clauses before it can be recommended for approval. The clauses should be completed by providing sufficient evidence to justify awarding each of the requirements a YES or fail rating. The species must achieve a YES rating against all requirements to be awarded a YES overall. **If the species fails any of these clauses it should be re-assessed as a Category B species.**

| Species Name | | Anchovy (<i>Engraulis ringens</i>) | |
|-----------------|--|---|------|
| A1 | Data Collection - Minimum Requirements | | |
| | A1.1 | Landings data are collected such that the fishery-wide removals of this species are known. | YES |
| | A1.2 | Sufficient additional information is collected to enable an indication of stock status to be estimated. | YES |
| Clause outcome: | | | PASS |

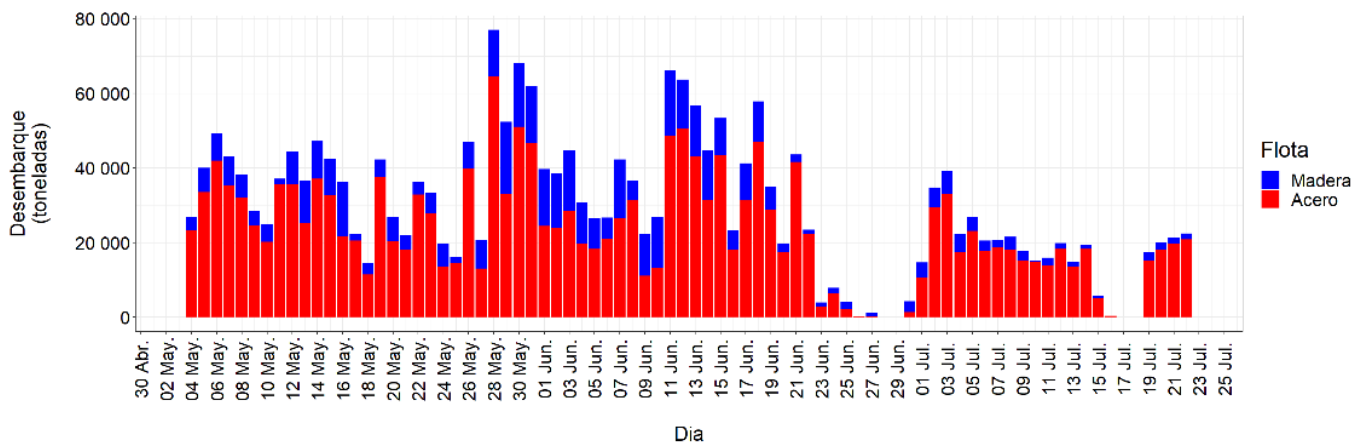
A1.1 Landings data are collected such that the fishery-wide removals of this species are known.

IMARPE provides regular reports on fishery activities in the fishery including:

- *Informe Técnicos*: results of acoustic surveys;
- *Prospección biológico-pesquera*: stock assessments and advice on TAC's;
- *Reporte del Progamas Bitacora de Pesca*: observer reports, daily landings data.

Monitoring by independent third-party operators (SGS) verifies landing statistics at a total of 134 designated landing sites. Data collected include dates and location of catch, plus size frequency sampling.

Landings data (logbooks) are collected and published daily on the IMARPE website (Figure 1). Historical daily landings data are available for every year since 2002, and the record for each individual day is made available online (IMARPE 2022c).



Fuente: PRODUCE
Elaboración: AFIRNP/DGIRP/IMARPE

Figure 1. Landings (*Desembarcos*) in tonnes of anchovy in the North-Central region during the second season of 2022. Blue (Wood - *Madera*) are landings by the artisanal fleet; red (Steel - *Acero*) by the industrial fleet (IMARPE 2022b).

Therefore, landings data are collected such that the fishery-wide removals of this species are known so the fishery PASSES Clause A1.1.

A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.

A large amount of fishery-dependent data is collected in addition to landings. Results are made available on the IMARPE website and include effort and CPUE data, size frequency distributions including analysis of proportion of juveniles in the catch, and the geographical distribution of catch, CPUE and size/juveniles. This information is collected and analysed as the fishing season is underway, and is used to produce live, short-term management measures in response to catch characteristics. An example of this was when the anchovy fishery was suspended for seven days within certain geographical limits in July 2022

through Directorial Resolution N° 00096-2022-PRODUCE/DGSFS-PA. The resolution was passed in response to an IMARPE recommendation, which itself was based on the high proportion of juveniles being caught in the fishery at the time. This demonstrates that fishery managers follow scientific advice.

A key fishery-independent activity carried out to collect data in support of the stock assessment process is the annual hydroacoustic cruise by IMARPE, twice a year. The stock assessment report for April 2022 has shown that as observed by Cr. 2202-04, a total biomass estimate for anchovy of 10.2 million tons, from which the North-Central Stock of Anchoveta accounts for 9,78 million tonnes (IMARPE, 2022a). This data is 40% higher than the biomass observed during the winter-spring 2021 (Cr. 2109-11 with 7 million tonnes), similar to that observed during the summer 2021 (Cr. 2102-04 with 9,88 million tonnes), and 15% superior than the average observed acoustic summer biomasses from 1996 to 2021 (8,47 million tonnes).

For this stock, the sizes ranged between 1.5 to 17 cm, mainly constituted by juveniles: 84% in terms of number and 62,6% in terms of weight, as it can be seen in the figure below.

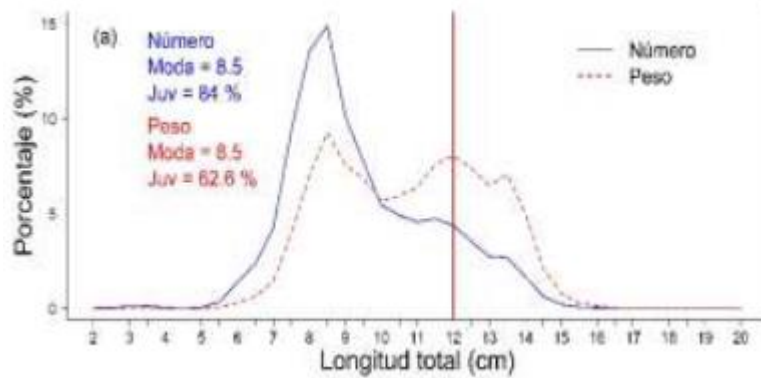


Figure 2. Catch-weighted Anchoveta size structure.
Source: IMARPE 2022a.

According to Ministerial Resolution N° 00167-2022-PRODUCE, the Ministry of Production established a quota of 2.792 million tons in this fishing season for Anchoveta (*Engraulis ringens*) and Longnose (white) anchoveta (*Anchoa nasus*) for indirect human consumption for the stock in the north-central zone.

Considering the high proportion of juveniles in the acoustics surveys, along with the announced quota, IMARPE recommended to:

- Strengthen the decision rules on the spatio-temporal closures of areas with a high incidence of juvenile fish, particularly those with entanglement;
- Strengthen the control and surveillance systems on landings, discards, extraction of juvenile fish and incidental catch of other species. Facilitate the collection of biological-fishing information on land and on board vessels, by IMARPE observers;
- Strengthen control and surveillance systems for landings, discards, removal of juveniles and bycatch of other species.

Therefore, sufficient additional information is collected to enable an indication of stock status to be estimated, so the fishery PASSES Clause A1.2.

References

| | | | | | |
|---|--------------------|----|------------------------------|-------|-------|
| <i>Resolución</i> | <i>Directoral</i> | N° | 00096-2022-PRODUCE/DGSFS-PA. | July | 2022. |
| https://cdn.www.gob.pe/uploads/document/file/3424295/RD%20096-2022-PRODUCE/DGSFS-PA.pdf | | | | | |
| <i>Resolución</i> | <i>Ministerial</i> | N° | 00167-2022-PRODUCE. | April | 2022: |
| https://cdn.www.gob.pe/uploads/document/file/3055789/RM%20N%C2%BA%20167-2022-PRODUCE.pdf.pdf | | | | | |
| IMARPE (2022a). Report of the 2022 hydroacoustic evaluation cruise of anchoveta and other pelagic resources. https://cdn.www.gob.pe/uploads/document/file/3084651/INFORME%20EJECUTIVO%202202-04.pdf | | | | | |
| IMARPE (2022b). Statistics for the second anchovy fishing season of 2022: http://www.imarpe.gob.pe/imarpe/archivos/reportes/Reporte_Anchoveta_I_2022.html . | | | | | |

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| IMARPE (2022c). Daily reports for the industrial pelagic fishery: http://www.imarpe.gob.pe/imarpe/detallereport.php?id_seccion=1013102010100000000000 . | |
| Informe sobre “Situación del stock norte-centro de la anchoveta peruana (<i>Engraulis ringens</i>) al 01 de abril y perspectivas de explotación para la Primera Temporada de pesca de 2022” - Oficio N° 327-2022-IMARPE/PCD”. May 2022: https://www.gob.pe/institucion/imarpe/informes-publicaciones/2943840-informe-sobre-situacion-del-stock-norte-centro-de-la-anchoveta-peruana-engraulis-ringens | |
| Links | |
| MarinTrust Standard clause | 1.3.2.1.1, 1.3.2.1.2, 1.3.2.1.4, 1.3.1.2 |
| FAO CCRF | 7.3.1, 12.3 |
| GSSI | D.4.01, D.5.01, D.6.02, D.3.14 |

| A2 Stock Assessment - Minimum Requirements | | |
|--|--|-------------|
| A2.1 | A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species. | YES |
| A2.2 | The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy. | YES |
| A2.3 | The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status. | YES |
| A2.4 | The assessment is subject to internal or external peer review. | YES |
| A2.5 | The assessment is made publicly available. | YES |
| Clause outcome: | | PASS |
| <p>A2.1 A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock), and considers all fishery removals and the biological characteristics of the species.</p> <p>IMARPE conducts and publishes a stock assessment report twice per year, in advance of each fishing season, named <i>Situación del Stock Norte-Centro de la Anchoveta Peruana</i>, and based on acoustic surveys. The stock assessment report summarises the full “situation of the stock”, including extensive discussion of the outcomes of the hydroacoustic cruise, measurements of water temperature and salinity, stock data originating from the fishery, the fishing perspective for the next fishing period, and many other variables. The assessment also incorporates the catch data collected from the fishery via logbooks and landing inspections, the characteristics of the species, the Catch per Unit Effort, size distribution etc...</p> <p>Therefore, a stock assessment is conducted at least once every 3 years and considers all fishery removals and the biological characteristics of the species, so the fishery PASSES Clause A2.1.</p> <p>A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.</p> <p>The IMARPE stock assessment provides an indication of the estimated SSB at the start of the fishing season, based primarily on the results of the hydroacoustic cruise. At the time the April 2022 stock assessment was published, SSB was estimated to be 9,780 million tonnes.</p> <p>Two main reference points are established for the stock:</p> <ul style="list-style-type: none"> - The target reference point, SSB_{Ref}, is 5 million tonnes; - The limit reference point is 4 million tonnes (IMARPE 2021). <p>IMARPE recommends to reduce the exploitation rate below 0.35 ($E < 0.35$) in order to reduce the impact of the fishery on the juveniles of the species.</p> <p>The species is strongly dependent on environmental variables, resulting in rapid fluctuations in biomass. Therefore, the assessment has considered three different scenarios depend on environmental condition being, unfavourable, favourable or neutral. According to IMARPE, TAC has been set up to an exploitation rate inferior to 0.35 and any of the 4 possible scenarios exceeds the catches, therefore they are below limit in any circumstance. (Figure 3).</p> | | |

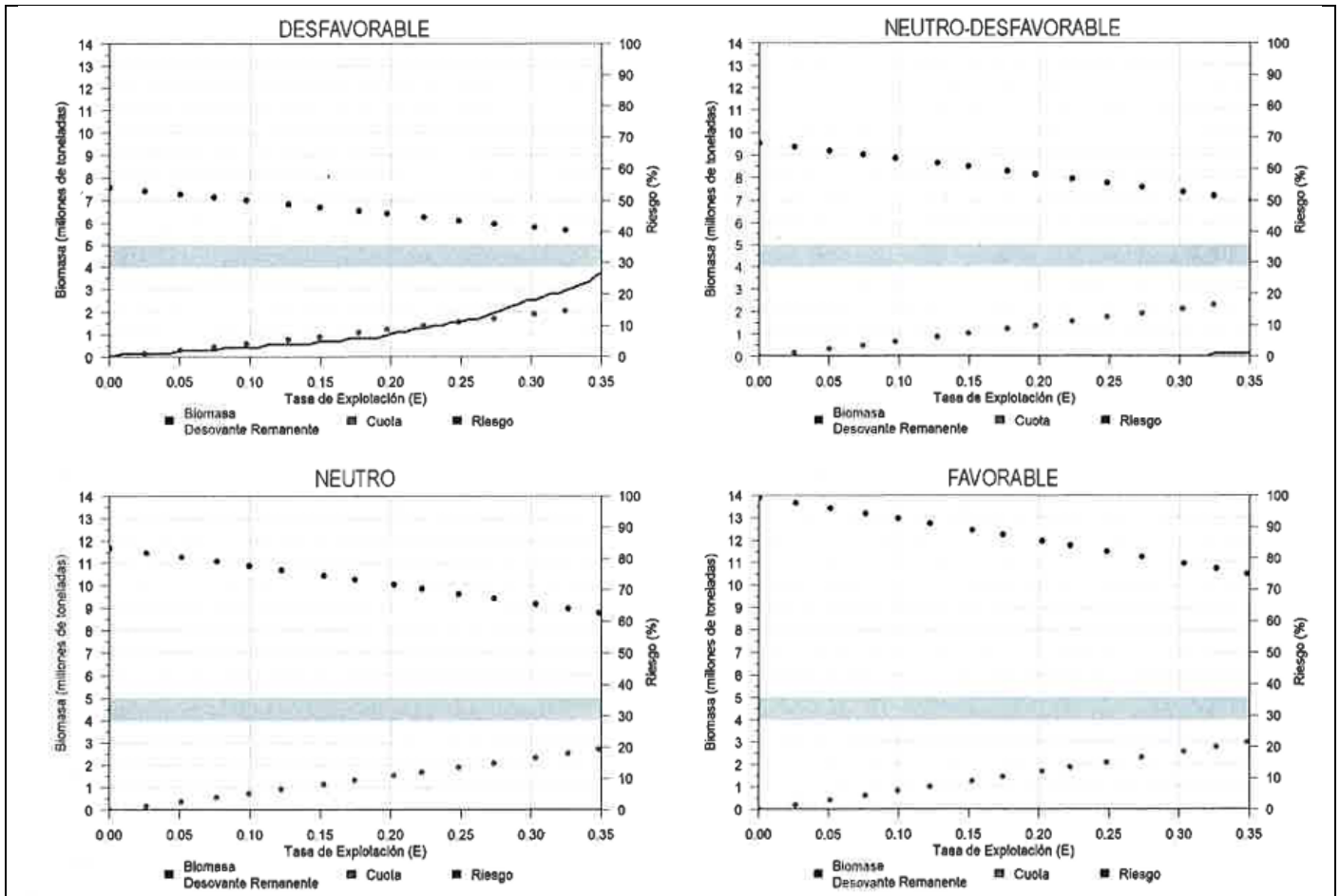


Figure 3. Decision tables related to 4 different environmental scenarios, corresponding to the first fishing period of 2022. In the figure, the X axis contains different levels of Exploitation Rate (E), each of which corresponds to a TAC (inferior spotted line whose value is read on the left vertical axis). The superior spotted line is the Spawning Biomass that would become available to the next reproductive year (winter 2022) as a consequence of the level of exploitation rate defined. The grey large horizontal bar denotes target and limit spawning biomass levels necessary to sustainably renew the stock. The black line corresponds to the risk of having a spawning biomass of less than 5 million t as consequence of the Exploitation Rate. Source: IMARPE 2021.

The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy and therefore the fishery PASSES clause A2.2.

A2.3 The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.

Using data from the acoustic surveys, IMARPE stock assessment produces a number of Decision tables provided to PRODUCE to facilitate estimating the sustainable level of fishing mortality based on announced quotas. The assumption is taken in 4 different exploitation rate scenarios: unfavourable, neutro-unfavourable, neutral, and favourable environmental conditions during the coming fishing season, as these conditions relate to the Anchoveta resource. Figure 3 above shows the decision tables provided by IMARPE based on acoustic survey data (SSB) derived in April 2022, prior to the opening of the first fishing season of 2022. Following the results, target exploitation rate has been established at less than 0.35, the historical average level for defining quotas, derived from the IMARPE Report on protocol establishing fishing quotas (maximum limit total allowable catch).

An example in color of the output of one of these models is provided below (Figure 4). IMARPE provides a final recommendation on exploitation rate and therefore quota based on minimising the risk that stock biomass falls below the target reference point.

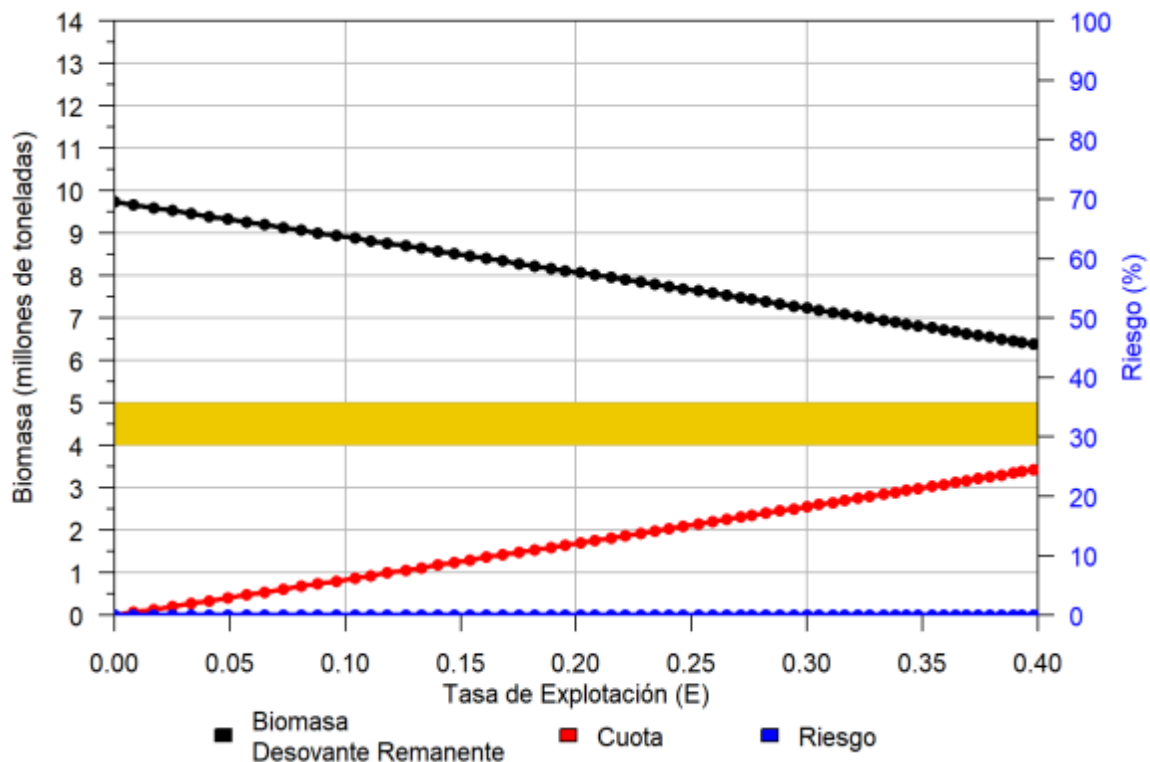


Figure 4. Example Decision Table from the April 2021 stock assessment report, using an assumption of neutral-disfavourable environmental factors. The left x-axis indicates potential rates of exploitation, each of which corresponds to a TAC (inferior spotted line whose value is read on the left vertical axis). The y-axis indicates millions of tonnes of biomass. The black line is the projected biomass remaining in winter 2021 at various levels of exploitation. The red line shows the quota equivalent to each level of exploitation. The blue line, to be read against the right-hand X-axis, indicates the probability that each exploitation rate will lead to the biomass falling below the target reference point of 5 million tonnes (in this example the probability is 0% at all projected exploitation rates). The yellow bar delineates the target (5 million tonnes) and limit (4 million tonnes) reference points. Source: IMARPE 2021.

Therefore, the assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status, so the fishery PASSES Clause A2.3.

A2.4 The assessment is subject to internal or external peer review.

The FIP in force has achieved formal collaboration with IMARPE and a signed MOU (2018) with PRODUCE which established terms for technical collaboration towards fisheries’ sustainability. A consultant’s report was presented (Dec 2019) to IMARPE and SNP on the role of the Management Strategy Evaluation (MSE) approach to, among other issues, improve the determination of stock status in the fishery. Different combinations of target harvest rate and different stock size thresholds were tested. Following presentation of results of the MSE, IMARPE have been requested to add more harvest strategies and operating models and to generate more discussion with stakeholders on improving the quality of stock assessments.

Therefore, the assessment is subject to internal or external peer review so the fishery PASSES Clause A2.4.

A2.5 The assessment is made publicly available.

IMARPE publishes stock assessment reports twice per year on their website. The reports contain a large amount of details explaining the process by which recommendations were reached, and also provide much of the raw data. These are also supported by reports for each hydroacoustic cruise, which are similarly made publicly available and contain details on methodology and outcomes.

Based on these stock assessments, PRODUCE issues online *Resoluciones Directorales* (RD) or *Resoluciones Ministeriales* (RM) which allocate each quota (first and second fishing season) to the fleet.

When considered alongside regular reports posted online summarising the outcomes of observer reports and daily analyses of logsheet data (*Reporte del Progamas Bitacora de Pesca*), the process appears to now be fairly transparent.

Therefore, the assessment is made publicly available, so the fishery PASSES Clause A2.5.

References

IMARPE (2021). *Situación del stock Norte-Centro de la anchoveta peruana (Engraulis ringens) a Abril de 2021 y perspectivas de explotación para la primera temporada de pesca del año* : <https://cdn.www.gob.pe/uploads/document/file/1832232/Anexo%20-%20Proyecto%20de%20Oficio%20339-2021-IMARPE.pdf>

IMARPE (2022). *Situación del stock Norte-Centro de la Anchoveta peruana (Engraulis ringens) al 01 de Abril y perspectivas de explotación para la primera temporada de pesca de 2022* : <https://www.gob.pe/institucion/imarpe/informes-publicaciones/2943840-informe-sobre-situacion-del-stock-norte-centro-de-la-anchoveta-peruana-engraulis-ringens>

PROTOCOLO. IMP-DGIRP/AFDPERP. September 2020. *Elaboración de la Tabla de Decisión para la determinación del Límite Máximo de Captura Total Permisible por temporada de pesca en la pesquería del Stock Norte-Centro de la anchoveta peruana* : [https://cdn.www.gob.pe/uploads/document/file/1307822/Protocol tabla decision anchoveta.pdf](https://cdn.www.gob.pe/uploads/document/file/1307822/Protocol%20tabla%20decision%20anchoveta.pdf)

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Links

| | |
|-----------------------------------|-------------------------------|
| MarinTrust Standard clause | 1.3.2.1.2, 1.3.2.1.4, 1.3.1.2 |
| FAO CCRF | 12.3 |
| GSSI | D.5.01, D.6.02, D.3.14 |

| A3 Harvest Strategy - Minimum Requirements | | | |
|---|--|--|-----|
| A3.1 | There is a mechanism in place by which total fishing mortality of this species is restricted. | | YES |
| A3.2 | Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy. | | YES |
| A3.3 | Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible). | | YES |

Clause outcome: PASS

A3.1 There is a mechanism in place by which total fishing mortality of this species is restricted.

Total fishing mortality is restricted through the use of a LMCTP set bi-annually by ministerial decree for each of the two fishing seasons. The LMCTP for the first 2022 season was set by the *Resolución Ministerial N° 00167-2022-PRODUCE*, as an amount of 2.792 million tonnes for anchovy (*Engraulis ringens*) and white anchovy (*Anchoa nasus*), for indirect human consumption for the stock in the north-central zone, according to a target exploitation rate inferior at 0.35.

Therefore, there is a mechanism in place by which total fishing mortality of this species is restricted so the fishery PASSES Clause A3.1.

A3.2 Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.

The second fishing season of 2021 ended on the 13th January 2022, after the capture of 98.14% of the 2,047,000t anchovy LMCTP (IMARPE 2022a). The first season of 2022 ended on the 22nd July 2022, after the capture of 83.5% of the 2,792,000t anchovy LMCTP (IMARPE 2022b). The evidence available suggests that total fishery removals do not regularly exceed the level recommended in the stock assessment.

Also, the fishing activity can be suspended during some days (RD N° 061-2022-PRODUCE/DGSFS-PA), and can also cease entirely when the stock falls below a certain level or/and when the tolerated limit of juveniles catches have been overpassed.

Discussions are still ongoing with IMARPE and SNP, through implementation of recommendations of a recent workshop on Management Strategy Evaluation (MSE) to generate more discussion on improving the quality of stock assessments and providing greater transparency on how harvest control rules are developed.

Therefore, total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment so the fishery PASSES Clause A3.2.

A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).

There has been no biomass estimate which was lower than the 4 million tonnes limit reference point since 1998, and so it is not clear whether the fishery would be closed in the event that the estimate fell below the limit reference point. However, the Rate of Exploitation is set to ensure a low risk of the stock biomass falling below the target reference point, and there is evidence that catches are reduced in seasons where biomass is lower, but also that fishing activity is suspended or cease totally in certain areas when some tolerable limits (juveniles catches for example) are exceeded.

As an example of the control of the removals and the implementation of the harvest control rules, in the last stock assessment published in April 2022, IMARPE recommended that, for the first fishing season of 2022, the exploitation rate should be inferior at 0.35 ($E < 0.35$), as well as the implementation of the necessary management measures to protect the juvenile fraction of the stock (IMARPE, 2022).

Further, the second fishing season for the fishery has been closed in recent years when reported catches in first season were higher than expected or the presence of juveniles was higher than 10%. IMARPE communicated on these reported data through reports named "Register of the area of incidence of juvenile anchovy" delivered to the government, which generally take measures few days after.

The accumulated landings and the associated LMTCP during each fishing season, are also constantly available online, almost in "real-time" (Figure 5).

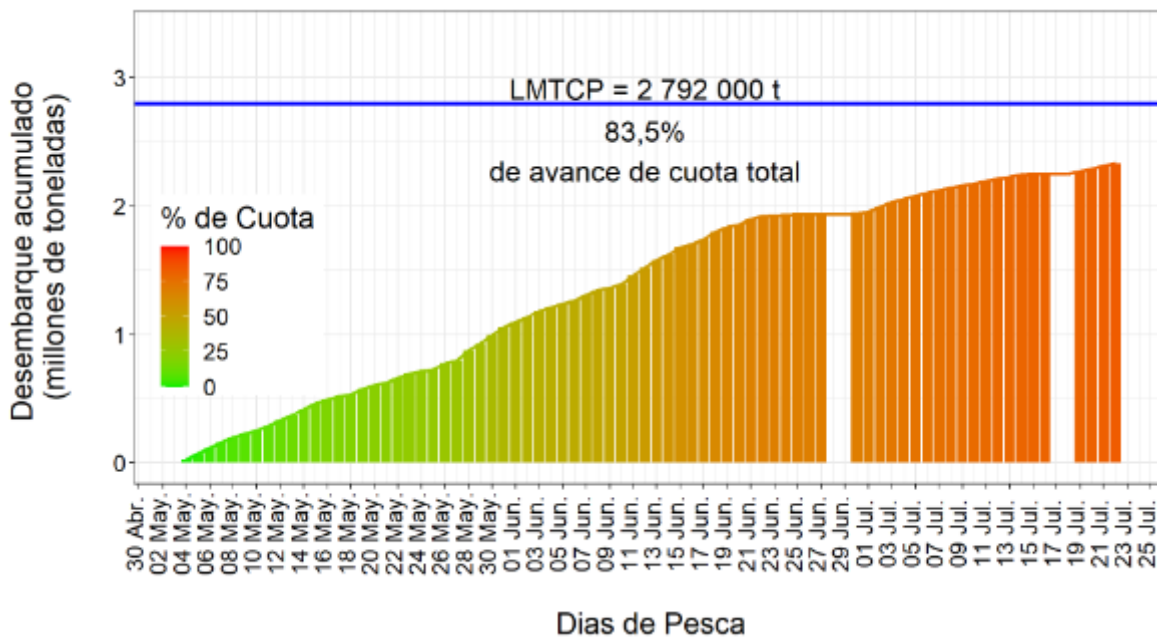


Figure 5. Accumulated landings and LMTCP attainment for the second fishing period of 2022.

Therefore, commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy, so the fishery PASSES Clause A3.3.

References

IMARPE (2022). *Situación del stock Norte-Centro de la Anchoqueta peruana (Engraulis ringens) al 01 de Abril y perspectivas de explotación para la primera temporada de pesca de 2022*: <https://www.gob.pe/institucion/imarpe/informes-publicaciones/2943840-informe-sobre-situacion-del-stock-norte-centro-de-la-anchoqueta-peruana-engraulis-ringens>

IMARPE (2022a). Report of the 2022 hydroacoustic evaluation cruise of Anchoveta and other pelagic resources: <https://cdn.www.gob.pe/uploads/document/file/3084651/INFORME%20EJECUTIVO%202022-04.pdf>

IMARPE (2022b). Statistics for the second anchovy fishing season of 2022 at the date of July 2022: http://www.imarpe.gob.pe/imarpe/archivos/reportes/Reporte_Anchoveta_1_2022.html.

Resolución Directoral N° 061-2022-PRODUCE/DGSFS-PA. June 2022: <https://www.gob.pe/institucion/produce/normas-legales/3077270-061-2022-produce-dgsfs-pa>


Standard clause 1.3.2.1.3

| Links | |
|----------------------------|------------------------|
| MarinTrust Standard clause | 1.3.2.1.3, 1.3.2.1.4 |
| FAO CCRF | 7.2.1, 7.22 (e), 7.5.3 |
| GSSI | D3.04, D6.01 |

| A4 Stock Status - Minimum Requirements | |
|--|---|
| A4.1 | <p>The stock is at or above the target reference point, OR IF NOT:</p> <p>The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:</p> <p>The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.</p> |
| Clause outcome: | |
| PASS | |
| <p>A4.1 The stock is at or above the target reference point, OR IF NOT:</p> <p>The stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure OR IF NOT:</p> <p>The stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.</p> <p>At the time of the April 2022 stock assessment, measured acoustic SSB of the North-Central Stock of Peruvian anchovy was estimated to be 9.78 million tonnes. This is almost the double of the target reference point (5 million tonnes), and 2.5 times the limit reference point (4 million tonnes). In all the scenarios showed in the assessment report, biomass was above the reference point and the risk of being below with an exploitation rate of 0.35 was nearly null.</p> <p>Therefore, the stock is at or above the target reference point and PASSES Clause A4.1.</p> | |
| <p>References</p> <p>IMARPE (2022). <i>Situación del stock Norte-Centro de la Anchoveta peruana (Engraulis ringens) al 01 de Abril y perspectivas de explotación para la primera temporada de pesca de 2022:</i> https://www.gob.pe/institucion/imarpe/informes-publicaciones/2943840-informe-sobre-situacion-del-stock-norte-centro-de-la-anchoveta-peruana-engraulis-ringens</p> | |
| Links | |
| MarinTrust Standard clause | 1.3.2.1.4 |
| FAO CCRF | 7.2.1, 7.2.2 (e) |
| GSSI | D6 01 |

CATEGORY D SPECIES

Category D species are those which make up less than 5% of landings and are not subject to a species-specific management regime. In the case of mixed trawl fisheries, Category D species may make up the majority of landings. The comparative lack of scientific information on the status of the population of the species means that a risk-assessment style approach must be taken.

| | | | |
|-----------|--|--|---|
| D1 | Species Name | | Munida (<i>Pleuroncodes monodon</i>) |
| | Productivity Attribute | Value | Score |
| | Average age at maturity (years) | 2 years ⁴ | 1 |
| | Average maximum age (years) | <10 years ³ | 1 |
| | Fecundity (eggs/spawning) | Up to 34,000 ² | 1 |
| | Average maximum size (cm) | 8cm ¹ | 1 |
| | Average size at maturity (cm) | 1cm ¹ | 1 |
| | Reproductive strategy | Live bearer ¹ (external brooders) | 3 |
| | Mean trophic level | 3.2 ¹ | 2 |
| | Average Productivity Score | | 1.43 |
| | Susceptibility Attribute | Value | Score |
| | Availability (area overlap) | >30% overlap | 3 |
| | Encounterability (the position of the stock/species within the water column relative to the fishing gear) | Benthic ¹ – low encounterability | 1 |
| | Selectivity of gear type | Retained | 3 |
| | Post-capture mortality | Retained | 3 |
| | Average Susceptibility Score | | 2.5 |
| | PSA Risk Rating (From Table D3) | | Pass |
| | Compliance rating | | PASS |
| | Further justification for susceptibility scoring (where relevant) | | |
| | For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision | | |
| |  | | |
| | Computer Generated Native Distribution Map for <i>Pleuroncodes monodon</i> ¹ | | |

References

¹Sealifebase, Munida: <https://www.sealifebase.ca/summary/Pleuroncodes-monodon.html>

² Keiji Baba; Yoshihisa Fujita; Ingo S. Wehrtmann & Gerhard Scholtz (2011). "Developmental biology of squat lobsters". In Gary Poore; Shane Ahyong & Joanne Taylor (eds.). The Biology of Squat Lobsters. Crustacean Issues. Vol. 20. CSIRO Publishing. pp. 105–148. ISBN 9780643101722. <https://books.google.co.uk/books?id=FQvjuChqUlcC&pg=PA106>

³ Roa, R., Bahamonde, R (1993). Growth and expansion of an exploited population of the squat lobster (*Pleuroncodes monodon*) after 3 years without harvesting. Fish. Res. 18: 305-319.

⁴ Roa, R.; Gallardo, V.A.; Ernst, B.; Baltazar, M.; Canete, J.I.; Enriquez Brionnes, S. Nursery ground, age structure and abundance of juvenile squat lobster *Pleuroncodes monodon* on the continental shelf off central Chile. Marine Ecology Progress Series 116(1-3): 47-54.

Standard clauses 1.3.2.2

Table D2 - Productivity / Susceptibility attributes and scores.

| Productivity attributes | High productivity (Low risk, score = 1) | Medium productivity (medium risk, score = 2) | Low productivity (high risk, score = 3) |
|--------------------------------|--|---|--|
| Average age at maturity | <5 years | 5-15 years | >15 years |
| Average maximum age | <10 years | 10-25 years | >25 years |
| Fecundity | >20,000 eggs per year | 100-20,000 eggs per year | <100 eggs per year |
| Average maximum size | <100 cm | 100-300 cm | >300 cm |
| Average size at maturity | <40 cm | 40-200 cm | >200 cm |
| Reproductive strategy | Broadcast spawner | Demersal egg layer | Live bearer |
| Mean Trophic Level | <2.75 | 2.75-3.25 | >3.25 |

| Susceptibility attributes | Low susceptibility (Low risk, score = 1) | Medium susceptibility (medium risk, score = 2) | High susceptibility (high risk, score = 3) |
|---|---|--|---|
| Areal overlap (availability) Overlap of the fishing effort with the species range | <10% overlap | 10-30% overlap | >30% overlap |
| Encounterability The position of the stock/species within the water column relative to the fishing gear, and the position of the stock/species within the habitat relative to the position of the gear | Low overlap with fishing gear (low encounterability). | Medium overlap with fishing gear. | High overlap with fishing gear (high encounterability). Default score for target species |
| Selectivity of gear type Potential of the gear to retain species | a Individuals < size at maturity are rarely caught | a Individuals < size at maturity are regularly caught. | a Individuals < size at maturity are frequently caught |
| | b Individuals < size at maturity can escape or avoid gear. | b Individuals < half the size at maturity can escape or avoid gear. | b Individuals < half the size at maturity are retained by gear. |
| Post-capture mortality (PCM) The chance that, if captured, a species would be released and that it would be in a condition permitting subsequent survival | Evidence of majority released post-capture and survival. | Evidence of some released post-capture and survival. | Retained species or majority dead when released. |

| D3 | | Average Susceptibility Score | | |
|----------------------------|-------------|------------------------------|-------------|----------|
| | | 1 - 1.75 | 1.76 - 2.24 | 2.25 - 3 |
| Average Productivity Score | 1 - 1.75 | YES | YES | YES |
| | 1.76 - 2.24 | YES | YES | TABLE D4 |
| | 2.25 - 3 | YES | TABLE D4 | TABLE D4 |

| D4 | Species Name | n/a | |
|---|---|----------------|-----------------|
| Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements | | | |
| D4.1 | The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts. | | |
| D4.2 | There is no substantial evidence that the fishery has a significant negative impact on the species. | | |
| | | | Outcome: |
| Evidence | | | |
| D4.1: The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts. | | | |
| D4.2 There is no substantial evidence that the fishery has a significant negative impact on the species. | | | |
| References | | | |
| Links | | | |
| MarinTrust Standard clause | | 1.3.2.2, 4.1.4 | |
| FAO CCRF | | 7.5.1 | |
| GSSI | | D.5.01 | |

FURTHER IMPACTS

The three clauses in this section relate to impacts the fishery may have in other areas. A fishery must meet the minimum requirements of all three clauses before it can be recommended for approval.

| F1 | Impacts on ETP Species - Minimum Requirements | | |
|----|---|---|-------------|
| | F1.1 | Interactions with ETP species are recorded. | YES |
| | F1.2 | There is no substantial evidence that the fishery has a significant negative effect on ETP species. | YES |
| | F1.3 | If the fishery is known to interact with ETP species, measures are in place to minimise mortality. | YES |
| | | Clause outcome: | PASS |

No more updated recent information has been found by the assessment team, so the information below will mainly be the same as last year's report.

F1.1 Interactions with ETP species are recorded.

There is a national observer program in place for the pelagic fisheries which reports incidental catches however, it is not clear if those incidental catches recorded are all the possible interactions with ETP species. PRODUCE resolutions do not specify what is considered incidental catches and there is no evidence of recording ETPs.

However, as part of the commitments to the FIP project, a private observer programme has been developed. The "SALVAMARES" Observer Programme, is a private sector initiative to provide information on fleet interaction with protected and endangered species and those caught as incidental by-catch. All interactions with ETPs are recorded in a logbook that is reported to IMARPE but exclusively from the vessels that are part of SNP which are involved in the SALVAMARES project. Therefore, it is recommended that information coming from vessels targeting Anchoveta that are not included in the private initiative should be improved.

Therefore, interactions with ETP species are recorded and fishery PASSES Clause F1.1.

F1.2 There is no substantial evidence that the fishery has a significant negative effect on ETP species.

The latest "SALVAMARES" report (2019) posted on the CeDePesca website summarised information from a total of 48 observed trips (9.8% of total trips undertaken from 28 April – 01 August 2019).

Interactions with seabirds, marine mammals and reptiles were quantified. Interactions reported in the programme do not mean necessarily in harm or mortality for such species and, indeed, such impacts occur with low frequency.

Regarding interactions with marine mammals, mortality rate was very low. In a total of 3,146 sets observed the total number of common dolphin (*Delphinus capensis*) observed was 12 with one death, 7 released alive and the rest which escape themselves. Its IUCN status is "least concern" and its population trend is unknown; also it is not cited in CITES appendixes¹¹.

A total of 7,612 Southern fur seals (*Arctocephalus australis*) were observed among which 2 died and the rest which escape themselves. South American sea lions (*O. flavescens*) were also observed in high percentage related to other marine mammals. A total of 125,306 sea lions were observed but 53 deaths were reported; 1664 were released alive and the rest of the observed sea lions escaped themselves with no harm reported.

Both of the species have the status "least concern" on the IUCN red list¹², population trends are respectively unknown and stable, and they are not cited in CITES appendixes.

Regarding seabirds, the results from the projections used for the whole fleet indicate that interactions were negligible. The species with higher percentage of sightings were: the Peruvian booby (*Sula variegata*, least concern on IUCN red list and stable population, not in CITES appendixes)¹³, the blue-footed booby (*Sula nebouxi*, least concern on IUCN red list, decreasing population, not in CITES appendixes)¹⁴, the Peruvian pelican (*Pelecanus thagus*, near threatened on IUCN red list, increasing population, not in CITES appendixes)¹⁵ and the guanay cormorant (*Phalacrocorax bougainvillii*, near threatened on IUCN red list, decreasing population, not in CITES appendixes)¹⁶.

¹¹ <https://www.iucnredlist.org/species/134817215/199893039> & <https://cites.org/fra/app/appendices.php>

¹² <https://www.iucnredlist.org/species/2064/72050370> & <https://www.iucnredlist.org/species/41665/61948292>

¹³ <https://www.iucnredlist.org/species/22696686/132589026>,

¹⁴ <https://www.iucnredlist.org/species/22696683/168988087>

¹⁵ <https://www.iucnredlist.org/species/22697619/132596827>

¹⁶ <https://www.iucnredlist.org/species/22696810/133553624>

Analysing each population, there is no substantial evidence that fishery have significant negative impacts. The population size of blue footed booby population is around 2 million. In the case of Peruvian boobies, of a total of 149,452 individuals observed, 398 died during the fishing operations, which represents approximately 0.3 % of total individuals observed.

A total of 100 Peruvian Pelicans were caught but released alive from 115,554 individuals observed, pelican populations are in increasing trend in the area and the mortalities from the fleet do not exceed 0.02 % of the individuals observed.

A total of 178,495 guanay cormorants (*Phalacrocorax bougainvillii*) were observed among which 809 deaths were reported representing 0.45% of the total. Total population of this species is estimated at 3.7 million individuals. CeDePesca report “*Ficha de impacto de la pesquería de anchoveta sobre especies de by-catch y protegidas*” has shown that indirect fishery impact could be a reason of decreasing their population but because food limitation rather than the mortalities occurred by the fishing operations. Even though, an estimation consumption of Anchoveta by these species have been calculated and considered in perdition models, therefore although it is still a challenge for the fishery to provide a higher coverage of the observer programme that will allow to get a better estimation of the direct impacts, the mortalities reported are low enough to not represent a significant negative impact (Birdlife international 2018).

For many other species, identification to species level was not possible by the Salvamares, and they were identified to family level, such as albatross, tern etc.

In relation to marine reptiles, two species of turtle interacted with the fishery, the Olive Ridley turtle (*Lepidochelys olivacea*, vulnerable on IUCN red list, decreasing population, not in CITES appendixes), and the Green turtle (*Chelonia mydas*, endangered on IUCN red list, decreasing population, not in CITES appendixes)¹⁷. All the individuals were released alive.

Therefore, there is no substantial evidence that the fishery has a significant negative effect on ETP species and it PASSES Clause F1.2.

F1.3 If the fishery is known to interact with ETP species, measures are in place to minimise mortality.

There are measures in place to minimise the impacts on ETPs species even more since there is a FIP project in place. A release-kit and training program are being rolled out. Also, crew of 48 vessels have been trained to identify ETPs species mostly seabirds under the SALVAMARES programme and to report correctly the interactions with those species classified under this category.

General efforts taken to protect ETP species include the establishment of three major Marine Protected Areas (MPAs), covering a total area of 6,305km², the National Reserve System of Guano Islands, Isles and Capes; the Paracas National Reserve; and the San Fernando National Reserve. These areas correspond to IUCN category VI protected areas and represent important refuges for seabirds and marine mammals. The aim of the regulation is to protect coastal habitats and breeding zones for several species. Recently, in designated areas, a permanent spatial closure of 3nm along the Peruvian coastline for all fleet was established. Further, season fishing restrictions are in place to protect juveniles and also breeding seasons for seabirds.

Another threat posed by the fishery to ETP species is the key role of the species in the ecosystem, therefore, Anchoveta is an important prey for a range of ETP species. In their stock assessment reports, IMARPE highlights the difficulties of predicting environmental variability due to el Niño and other events and note that focus should be on preservation of the resilience of key species in the ecosystem, such as Anchoveta. In the report “*Ficha de impacto de la pesquería de anchoveta sobre especies de by-catch y protegidas*”, estimation of consumption of each species have been analysed to guaranty the tones needed are considered when a TAC is allocated every fishing season.

Therefore, there are measures in place to minimise mortality of ETP species and the fishery PASSES Clause F1.3.

References

Cedespesca, 2019. Report N°3 (2019 12pp) PROGRAMA “SALVAMARES” Onboard observer reports: https://cedepesca.net/wp-content/uploads/2020/01/2019-10-16_Report-of-the-Private-Observer-Program-on-board.pdf

Ficha de impacto de la pesquería de anchoveta sobre especies de by-catch y protegidas. http://cedepesca.net/wp-content/uploads/2018/04/CeDePesca_Fichas-de-impacto-de-la-pesquer%C3%ADa-de-anchoveta-2017-11-29.pdf

BirdLife International. 2018. *Sula nebouxii*. The IUCN Red List of Threatened Species 2018: e.T22696683A132588719. <https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T22696683A132588719.en>

¹⁷ <https://www.iucnredlist.org/species/11534/3292503> & <https://www.iucnredlist.org/species/4615/11037468>

BirdLife International. 2018. *Sula variegata*. The IUCN Red List of Threatened Species 2018: e.T22696686A132589026. <https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T22696686A132589026.en>

Links

| | |
|-----------------------------------|---------------|
| MarinTrust Standard clause | 1.3.3.1 |
| FAO CCRF | 7.2.2 (d) |
| GSSI | D4.04, D.3.08 |

| | | | |
|------------------------|---|--|-------------|
| F2 | Impacts on Habitats - Minimum Requirements | | |
| | F2.1 | Potential habitat interactions are considered in the management decision-making process. | YES |
| | F2.2 | There is no substantial evidence that the fishery has a significant negative impact on physical habitats. | YES |
| | F2.3 | If the fishery is known to interact with physical habitats, there are measures in place to minimise and mitigate negative impacts. | YES |
| Clause outcome: | | | PASS |

F2.1 Potential habitat interactions are considered in the management decision-making process.

The purse seine and pelagic trawl gears used in this fishery are not intended to make contact with the seabed, as the vertical distribution shown in previous IMARPE reports have defined the potential area of interaction with the water column at up to 10m of depth. There is unlikely impact on benthic habits with purse seine and pelagic trawl fishing gear. Technical measures are published on the PRODUCE website through Ministerial Resolutions. Those measures designed to protect habitats and Vulnerable Marine Ecosystems (VME) like coral reefs or mangrove forests, include restricting industrial fishing operations to 5 nautical miles from the coast and MPAs in operation. New entrants to the fishery are prohibited. The assessment guidance for this clause states that “good practice requires there to be a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types”. The Peru anchovy fishery does not require a strategy to be in place as the gears used by their nature do not pose a risk to habitats, and F2.1 is met.

Therefore, potential habitat interactions are considered in the management decision-making process and the fishery PASSES Clause F2.1.

F2.2 There is no substantial evidence that the fishery has a significant negative impact on physical habitats.

There is substantial evidence that purse seine and pelagic trawl gears rarely have any impact on physical habitats. Pelagic gears are not intended to interact with the seabed and vessels make efforts to avoid interactions wherever possible. Furthermore, data was provided (SALVAMARES Report 2019) from observed fishing trips on the sediment type remaining on nets after hauling, resulting from incidental interaction with the seabed. Observers reported a total number of interactions with seabeds in 147 shallow water inlets (5% by number of total inlets fished). Sediments observed on the nets after fishing operations included mud, sand and rock. The fishery has been deemed to have low risk to habitats. However, there have been difference in the data reported by the private observer programme and the national observer programme. Interactions with seabed have been slightly presented in different ways. Quality of data collected on habitats impacts should be improved and more information about VMEs geographical distribution should be collected. However, new measures to limit fishing operations in shallow water (5nm for industrial fleet) provide support to confirm that the fishery does not damage the seafloor. Other examples of the conclusion that interactions are minimal can be found throughout the literature, for example in the BENTHIS project (Rijnsdorp 2013) and also in the risk ratings of many fishery assessment methodologies (such as the Seafish RASS methodology and the Monterey Bay Aquarium scoring guidance).

Therefore, there is no substantial evidence that the fishery has a significant negative impact on physical habitats, and considerable evidence that it has very little impact. The fishery PASSES Clause F2.2.

F2.3 If the fishery is known to interact with physical habitats, there are measures in place to minimise and mitigate negative impacts.

From October 2018, the Government made available vessel monitoring systems (VMS) data from the fleets to the Global Fishing Watch (GFW) application. Vessels from both industrial fleets are included. Mandatory VMS are in place, as required by PRODUCE Decrees N° 10-2010, N° 5-2012 and N° 01-2013. The electronic/radio log is required as well for the fishery (PRODUCE 2016a).

Any violation of entry into MPAs and VMEs for fishing operations are prosecuted. Results of these prosecutions are published on the PRODUCE website. However, it would be useful to provide a map of VMEs along the Peruvian coast and overlay the fishery footprint to support that the fishery does not operate on any VMEs.

SALVAMARES report has shown that only the 0.5% of the trawls observed presented interactions with the seafloor.

Therefore, the measures already implemented in the fishery to monitor the fishing areas are working but there is still an information gap in the definition of encountered habitats that should be improved with mapping the vulnerable areas.

The fishery is known to almost not to interact with physical habitats, and therefore no such measures are required to be in place.

Therefore, the requirements of clause F2.3 are met, the fishery PASSES Clause F2.3.

References

Caveen, A. & Lart, B. (2020). Seafish RASS scoring guidance. <https://www.seafish.org/document/?id=4351A6BB-D3E4-4D26-BE93-EE19695C5FA9>

Lloyds Register (2020). Denmark Gulf of Riga herring initial assessment, 2020. https://www.marin-trust.com/sites/marintrust/files/approved-raw-materials/WF%20321%20Gulf%20of%20Riga%20Herring_Entire%20fishery%20%28Latvia%20%2B%20Estonia%29%202020.pdf

Rijnsdorp, A. (2013). BENTHIS deliverable 1.1b: Benthic impact from the perspective of the fisheries. <https://www.benthis.eu/web/file?uuid=e89c7e3e-a611-4d12-b829-47caed6f8313&owner=fd9fa22c-6bf7-42dc-ad64-ad4cbd966f98>

Seafood Watch Fisheries Standard V F4 (2020). <https://www.seafoodwatch.org/globalassets/sfw/pdf/standards/fisheries/seafood-watch-fisheries-standard-version-f4.pdf>

Links

| | |
|-----------------------------------|-----------------------|
| MarinTrust Standard clause | 1.3.3.2 |
| FAO CCRF | 6.8 |
| GSSI | D.2.07, D.6.07, D3.09 |

| F3 Ecosystem Impacts - Minimum Requirements | | |
|---|---|-------------|
| F3.1 | The broader ecosystem within which the fishery occurs is considered during the management decision-making process. | YES |
| F3.2 | There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem. | YES |
| F3.3 | If one or more of the species identified during species categorisation plays a key role in the marine ecosystem, additional precaution is included in recommendations relating to the total permissible fishery removals. | YES |
| Clause outcome: | | PASS |

F3.1 The broader ecosystem within which the fishery occurs is considered during the management decision-making process.

Anchoveta are highly dependent on environmental events; periodically, the upwelling that drives the Humboldt Current Large Marine Ecosystem’s productivity, where the fishery operates, is disrupted by El Niño-Southern Oscillation (ENSO) events. Spatiotemporal variability affecting Anchoveta at different temporal scales has been studied by several authors. During ENSO events, fish abundance and distribution are significantly affected, often leading to stock crashes and cascading social and economic impacts. These events because regime shifts where anchovetas; sardines or other LTL species alternate as the dominant species in the ecosystem.

Furthermore, the IMARPE stock assessments take into account a wide range of environmental and ecosystem variables. For example, the two last ones (2021 and 2022) include discussion of water temperature, atmospheric pressure, wind, waves, a range of other atmospheric conditions, salinity, and chlorophyll concentrations.

Therefore, the broader ecosystem within which the fishery occurs is considered during the management decision-making process and the fishery PASSES Clause F3.1.

F3.2 There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem.

Prolonged warm anomalous conditions since late 2013 have led to higher diversity in the pelagic ecosystem, higher mixture of juvenile and adult organisms and in Anchoveta schools diet change from euphausiids to copepods, more coastal distribution and increased consumption of Anchoveta by other coastal species due greater accessibility.

IMARPE, in their various reports, highlights that difficulties to predict environmental variability are more evident in recent years, and indicates that research focus should be on preservation environmental resilience by protecting coastal areas, spawning events and Anchoveta juveniles.

IMARPE stock assessment reports defined that main threat posed by this fishery consists of reduction of food availability to protected predator species (Gislason, 2003), as Anchoveta is a forage species. An inverse relationship was found between the Anchoveta fishing mortality and populations of seabirds and pinnipeds. Also, a negative trend was observed for Anchoveta landings from 1990 to 2012, what was also seen for other commercial species, which rely on Anchoveta directly or indirectly through the trophic chain, underpinning the key role of Anchoveta in Peruvian marine ecosystem.

Also, an analysis of the likely impact of the anchovy fishery on the ecosystem, particularly dependent predators, was conducted by IMARPE as part of the FIP in place for the fishery as it works towards MSC certification (IMARPE 2020). The analysis concluded that the ‘status quo’ fishing mortality for anchovy would be $F=0.784$, and would produce an Anchoveta biomass around 19% of the unexploited level. The analysis also concluded that this level of exploitation would meet the MSC ecosystem requirements relating to the impacts of the fishery on abundance levels of other species. As the current exploitation rates in the fishery are considerably lower than those modelled by the analysis, it is reasonable to conclude that the fishery currently does not have a significant negative impact on the ecosystem.

Therefore, there is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem and the fishery PASSES Clause F3.2.

F3.3 If one or more of the species identified during species categorisation plays a key role in the marine ecosystem, additional precaution is included in recommendations relating to the total permissible fishery removals.

In the recent published stock assessments reports, the fishery management have attempted to maintain the stock above a minimum biological reference point set up at 5 million tonnes, which has been demonstrated throughout the time series to be a sufficient level to support the ecosystem.

IMARPE is currently attempting to quantify the actual needs of the ecosystem to add further evidence to this assumption. The information reported in the “Informe para el Proyecto de Mejoras de la Pesquería de Anchoveta CHI Stock Centro-Norte (PROME)” in order to understand the processes affecting the ecosystem impacts of fishing the low trophic level Peruvian anchovy in the Northern Humboldt Current Ecosystem, the recent ecosystem study has shown that the predators with more than 50 % of anchovetas in their diets were boobies, cormorants, pelicans, bonitos, other large pelagic, sea lions, catfishes and fur seals. Predators with more than 2 tonnes per km² per year of anchovetas consumption were bonito, medium demersal, horse mackerels, other large pelagic and pacific mackerels.

The conclusions of those results were that depletion experiments varying levels of fishing mortality of adult Peruvian Anchoveta Northern-Central stock, using both ecosystem models (without and with environmental forcing), indicated that at the status quo fishing mortality ($F = 0.784$) and level of Anchoveta depletion (around 19 % B_0), does not impact the abundance levels of more than 15 % of the other species and trophic groups by more than 40%, and also does not reduce the abundance level of any other species or trophic group by more than 70 % (OFICIO N° 309-2020-IMARPE/PE).

Further, in the last stock assessment and quota-setting protocol, some measures and advices were provided to avoid removals when it is considered that the juvenile fraction of the stock could be affected (sizes < 12 cm) such as fishing closures, closures areas, temporary or permanent bans, among others, as anchovy stock and juveniles are closely monitored over the year. These measures can be seen through several Resolutions: RD N° 00096-2022-PRODUCE/DGSFS-PA; RM N° 477-2019-PRODUCE; RM N° 483-2019-PRODUCE; RM N° 544-2019-PRODUCE; RM N° 552-2019-PRODUCE; RM N° 544-2019-PRODUCE...

Therefore, if one or more of the species identified during species categorisation plays a key role in the marine ecosystem, additional precaution is included in recommendations relating to the total permissible fishery removals and therefore the fishery PASSES clause F3.3.

References

IMARPE (2020). Ecosystem impacts of fishing the low trophic level Peruvian anchovy in the Northern Humboldt Current Ecosystem. <https://cedepesca.net/wp-content/uploads/2021/01/Tam-Ecosystem-impacts-2020.pdf>

IMARPE (2021). Situación del stock Norte-Centro de la anchoveta peruana (*Engraulis ringens*) a Abril de 2021 y perspectivas de explotación para la primera temporada de pesca del año. <https://cdn.www.gob.pe/uploads/document/file/1832232/Anexo%20-%20Proyecto%20de%20Oficio%20339-2021-IMARPE.pdf>

IMARPE (2022). Situación del stock Norte-Centro de la Anchoveta peruana (*Engraulis ringens*) al 01 de Abril y perspectivas de explotación para la primera temporada de pesca de 2022: <https://www.gob.pe/institucion/imarpe/informes-publicaciones/2943840-informe-sobre-situacion-del-stock-norte-centro-de-la-anchoveta-peruana-engraulis-ringens>

Informe para el Proyecto de Mejoras de la Pesquería de Anchoveta CHI Stock Centro-Norte (PROME). OFICIO N° 309-2020-IMARPE/PE. Abril 2020.

Resolución Directoral N° 00096-2022-PRODUCE/DGSFS-PA, 16th July 2022. <https://cdn.www.gob.pe/uploads/document/file/3424295/RD%20096-2022-PRODUCE/DGSFS-PA.pdf>

PROTOCOLO. IMP-DGIRP/AFDPERP. September 2020. Elaboración de la Tabla de Decisión para la determinación del Límite Máximo de Captura Total Permisible por temporada de pesca en la pesquería del Stock Norte-Centro de la anchoveta peruana : https://cdn.www.gob.pe/uploads/document/file/1307822/Protocol_tabla_decision_anchoveta.pdf

| | |
|-----------------------------------|-----------------------|
| Links | |
| MarinTrust Standard clause | 1.3.3.3 |
| FAO CCRF | 7.2.2 (d) |
| GSSI | D.2.09, D3.10, D.6.09 |

SOCIAL CRITERION

In addition to the scored criteria listed above, applicants must commit to ensuring that vessels operating in the fishery adhere to internationally recognised guidance on human rights. They must also commit to ensuring there is no use of enforced or unpaid labour in the fleet(s) operating upon the resource.

Appendix A - Determining Resilience Ratings

The assessment of Category B species described in this assessment report template utilises a resilience rating system suggested by the American Fisheries Society. This approach was chosen because it is also used by FishBase, and so the resilience ratings for many thousands of species are freely available online. As described by FishBase, the following is the process used to arrive at the resilience ratings:

“The American Fisheries Society (AFS) has suggested values for several biological parameters that allow classification of a fish population or species into categories of high, medium, low and very low resilience or productivity (Musick 1999). If no reliable estimate of r_m (see below) is available, the assignment is to the lowest category for which any of the available parameters fits. For each of these categories, AFS has suggested thresholds for decline over the longer of 10 years or three generations. If an observed decline measured in biomass or numbers of mature individuals exceeds the indicated threshold value, the population or species is considered vulnerable to extinction unless explicitly shown otherwise. If one sex strongly limits the reproductive capacity of the species or population, then only the decline in the limiting sex should be considered. We decided to restrict the automatic assignment of resilience categories in the Key Facts page to values of K , t_m and t_{max} and those records of fecundity estimates that referred to minimum number of eggs or pups per female per year, assuming that these were equivalent to average fecundity at first maturity (Musick 1999). Note that many small fishes may spawn several times per year (we exclude these for the time being) and large live bearers such as the coelacanth may have gestation periods of more than one year (we corrected fecundity estimates for those cases reported in the literature). Also, we excluded resilience estimates based on r_m (see below) as we are not yet confident with the reliability of the current method for estimating r_m . If users have independent r_m or fecundity estimates, they can refer to Table 1 for using this information.”

| Parameter | High | Medium | Low | Very low |
|--------------------|----------|-------------|-------------|----------|
| Threshold | 0.99 | 0.95 | 0.85 | 0.70 |
| r_{max} (1/year) | > 0.5 | 0.16 - 0.50 | 0.05 - 0.15 | < 0.05 |
| K (1/year) | > 0.3 | 0.16 - 0.30 | 0.05 - 0.15 | < 0.05 |
| Fecundity (1/year) | > 10,000 | 100 - 1000 | 10 - 100 | < 10 |
| t_m (years) | < 1 | 2 - 4 | 5 - 10 | > 10 |
| t_{max} (years) | 1 - 3 | 4 - 10 | 11 - 30 | > 30 |

[Taken from the FishBase manual, “Estimation of Life-History Key Facts”, <http://www.fishbase.us/manual/English/key%20facts.htm#resilience>]

Glossary

Non-target: Species for which the gear is not specifically set, although they may have immediate commercial value and be a desirable component of the catch. OECD (1996), Synthesis report for the study on the economic aspects of the management of marine living resources. AGR/FI(96)12

Target: In the context of fishery certification, the target catch is the catch of stock under consideration by the unit of certification – i.e. the fish that are being assessed for certification and ecolabelling. (GSSI)

MarinTrust Fishery Assessment Peer Review Template

This section comprises a summary of the fishery being assessed against version 2 of the MarinTrust Standard.

| | |
|--|--|
| Fishery under assessment | WF02 Anchoveta (<i>Engraulis ringens</i>), Peru Northern-Central Stock |
| Management authority (Country/State) | Peru |
| Main species | Anchoveta (<i>Engraulis ringens</i>) |
| Fishery location | Northern border of Peru EEZ to 16° South |
| Gear type(s) | Purse Seine (industrial fleet) |
| Overall recommendation. (Approve/ Fail) | Approve |

Summary: in this section, provide any additional information about the fishery that the reviewers feel is significant to their decision.

The assessors have provided a detailed examination of the fishery with appropriate levels of evidence and which follows the standards required.
 The following comments are of note:

- The assessor has used catch composition data from May 2021 – can they confirm if this was just for the month or for the season? If just for the month there may be seasonal bias in catch and this could be investigated further, especially as catch reported differs from previous assessment. **This was just for the month of May yes, and I could not find bigger scale data (request for more consistent data added in the assessment determination).**
- The assessor lists some IMARE recommendations – can they state if these have been implemented? **Recommendations, like fisheries area closures, are made legally binding by law, but I could not find information about what really happen on the field, if there are real control and enforcement and/or non-respect of the rules.**
- A 3.2 The assessor states that “fishing activity can also cease entirely when the stock falls below a certain level or/and when the tolerated limit of juveniles catches have been overpassed” can the assessor state the stock limit and the limit for juveniles, how this is monitored and how quickly this is fed back to management and as such actions taken if level exceeds limit?

When in the reported catches (supported by observers reports) show that more than 10% of the fishes caught are juveniles, closure measures are taken. IMARPE, submits Reports named "Register of the area of incidence of juvenile anchovy" in which it informs the government that, according to the information from the Pelagic Fishery Monitoring and the Fishing Logbook Programme of IMARPE, as well as from the Directorate of Supervision and Control of PRODUCE, it was observed that on one or several days, there was still an overlapping of juvenile and adult anchovy, a high incidence of juvenile specimens and the presence of entanglement has been observed, for which reason it recommends the implementation of a spatio-temporary closure for a period of no less than several days. This has been added in the report.

I got an example of the Report from 14 of July and the RD for closure is on date of 16 of July.

Here for example I found in the archive a [report on the incidence of juveniles catches](#).

Also, the total catches are reported almost on real time on the IMARPE website, with a graph containing a continuous line showing the LMTCP.

- Could the assessor find evidence of trends in fishing mortality rate/CPUE data over previous years?

http://www.imarpe.gob.pe/imarpe/detallereport.php?id_seccion=1013102010100000000000

- Can the assessor provide status of all the ETP species recorded in terms of IUCN red list and CITES. **Added in the report.**

For marine mammals could information regarding population trends of the species also be provided (as the assessor has done for seabirds). **Added when data available.**

- Are there any measures in place to minimise mortality of the ETP species it terms of escape panels in nets/cleaning nets between hauls?

In these terms, I did not find any evidence targeting fishing gears. I guess that it is because they consider the catches too low to implement any measures on that.

General Comments on the Draft Report provided to the peer reviewer

A well-presented review with good level of references and detail.

Summary of Peer Review Outcomes

Peer reviewers should review the fishery assessment report with the primary objective of answering the key questions listed in the table below. Where the situation is more complicated, reviewers may instead answer “See Notes”.

| | YES | NO | See Notes |
|---|-----|----|-----------|
| A – Fishery Assessment | | | |
| 1. Has the fishery assessment been fully completed, using the recognised MarinTrust fishery assessment methodology and associated guidance? | ✓ | | |
| 2. Does the Species Categorisation section of the report reflect the best current understanding of the catch composition of the fishery? | ✓ | | |
| 3. Are the scores in the following sections accurate (i.e. do the scores reflect the evidence provided)? | ✓ | | |
| Section M - Management | ✓ | | |
| Category A Species | ✓ | | |
| Category B Species | N/A | | |
| Category C Species | N/A | | |
| Category D Species | ✓ | | |
| Section F – Further Impacts | ✓ | | |

Detailed Peer Review Justification

Peer reviewers should provide support for their answers in the boxes provided, by referring to specific scoring issues and any relevant documentation as appropriate.

Detailed justifications are only required where answers given are one of the ‘No’ options. In other (Yes) cases, either confirm ‘scoring agreed’ or identify any places where weak rationales could be strengthened (without any implications for the scores).

Boxes may be extended if more space is required.

| |
|---|
| 1. Is the scoring of the fishery consistent with the MarinTrust standard, and clearly based on the evidence presented in the assessment report? |
| The scoring is consistent with the MT standard and the appropriate evidence is provided within the assessment report. |
| Certification body response |
| |

| |
|---|
| 2. Has the fishery assessment been fully completed, using the recognised MARINTRUST fishery assessment methodology and associated guidance? |
| |

The fishery assessment has been fully completed following the MARINTRUST methodology and notwithstanding the remarks in this peer review report (see summary and below).

Can the assessor confirm the period of data used in the catch composition data from the May 2021 IMARPE report (just one month?) **done**

A summary of findings for the assessment including fishery management infrastructure, stock assessment efforts, other research and control and enforcement, should be included in the assessment determination section, however these have been provided by the internal reviewer, who also agrees with the assessment report. **added**

Certification body response

3. Does the Species Categorisation section of the report reflect the best current understanding of the catch composition of the fishery?

The species categorisation section (see Table 5) indicates the catch composition is made up of 99.792% Anchoveta (*Engraulis ringens*) and 0.126% Munida (*Pleuroncodes monodon*), with all other species caught at <0.1%. The assessor has used catch composition data from May 2021 – can they confirm if this was just for the month or for the season? If just for the month there could be seasonal bias in catch and this could be investigated further, e.g. can they compare the period for the catch data used in the previous assessment report which gave higher levels of other by-catch species (i.e. Chilean Jack Mackerel (*Trachurus murphyi*), Pacific Chub mackerel (*Scomber japonicus*), Humboldt squid (*Dosidicus gigas*), South American pilchard (*Sardinops sagax*) and Longnose anchoveta (*Anchoa nasus*)).

Already answered

Certification body response

3M. Are the scores in “Section M – Management” clearly justified?

The scores in this section are clearly justified by the assessor with good evidence provided, especially regarding application of sanctions.

Comments:

In section M1.1 can you clarify PRODUCE is responsible for monitoring and surveillance? Is there any evidence they are involved in training?

Done, it’s IMARPE responsible for that.

Can the Assessors provide evidence that SNP (which appears industry focussed) or the management system includes mechanisms for the engagement and involvement of environmental NGOs.

For SNP yes (already done), but for NGOs it is less evident (I added for WWF), added on M1.5.

M2.4 Can the assessor provide detail on observer coverage (mentioned elsewhere in report) including percent cover? I did not find this info, except that it should be increased.

In the report of the observer programme, they mentioned that the shipment of observers had a decrease of 82% due to the COVID-19 pandemic, and that in May 2021 there have been 40 fishing trips by the industrial fleet targeting the anchovy resource were observed. During these trips a total of 96 fishing hauls were made. Added in the report, But I don't know in which extent this information can be relevant.

Do fishers provide additional information to managers to support the effective management of the fishery? E.g reporting suspected illegal activity?

I did not find this info, only that monitoring and compliance regarding discards and zonal invasions (industrial vessels operating within 5nm from the coastline) are expected to increase with the electronic log system and mandatory positioning system now on board for all fleets.

Certification body response

3A. Are the "Category A Species" scores clearly justified?

The scores in this section are clearly justified by the assessor with detailed responses and demonstrates that PRODUCE sets the TAC based on scientific advice from IMARE and the SSB is above the target reference SSB.

A1.2 The assessor lists some IMARE recommendations – can they state if these have been implemented?

Answered above.

A 3.2 The assessor states that "fishing activity can also cease entirely when the stock falls below a certain level or/and when the tolerated limit of juveniles catches have been overpassed" can the assessor state the stock limit and the limit for juveniles, how this is monitored and how quickly this is fed back to management and as such actions taken if level exceeds limit?

Could the assessor find evidence of trends in fishing mortality rate/CPUE data over previous years?

Answered above.

Certification body response

3B. Are the “Category B Species” scores clearly justified?

No Category B species were identified.

Certification body response

3C. Are the “Category C Species” scores clearly justified?

No Category C species were identified.

Certification body response

3D. Are the “Category D Species” scores clearly justified?

The scores in this section are justified by the assessor, with suitable evidence provided

Certification body response

3F. Are the scores in “Section F – Further Impacts” clearly justified?

The scores in this section are justified by the assessor.

Comments

Can the assessor provide status of all the ETP species recorded in terms of IUCN redlist and CITES. For marine mammals could information regarding population trends of the species also be provided as the assessor has done for seabirds?

Answered above.

Can the assessor provide evidence in terms of what % of sets were observed. If 9.8% of vessels carried an observer – then if mortalities of ETP is extrapolated to the whole fleet ~540 southern fur seals deaths in a season (which should then be extrapolated again for % of sets observed) and compared to total population, as per seabirds?

I did not find this information.

Are there any measures in place to minimise mortality of the ETP species in terms of escape panels in nets/cleaning nets between hauls?

Answered above.

Can the assessor provide evidence of the reports of the private observer programme regarding any interaction with VMEs for the sets which interacted with the seabed? Can the assessor expand on the difference in the data reported by the private observer programme and the national observer programme?

I noted that more information should also be collected to define the potential direct and indirect impacts of the fishery on vulnerable species and habitats. Encountered habitats should be defined with more clarity as there is controversial information through observer reports.

No info on VMEs is provided on the private observer programme.

Certification body response

Optional: General comments on the Peer Review Draft Report

The fishery review by the assessor provides a good level of detail and useful references. However, clarification on whether species categorisation was based on a single month of data (rather than season) and further detail regarding ETP species interactions especially marine mammal population status could be provided.

Certification body response